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Employee Fitness and Lifestyle Project

Toronto 1977-78

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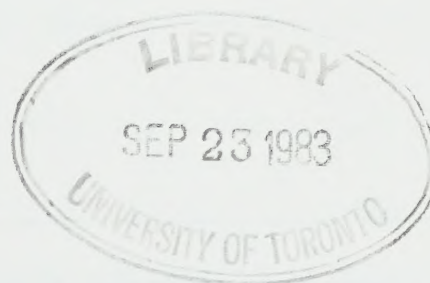
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**REPORT ON THE
EMPLOYEE FITNESS AND LIFESTYLE PROJECT
TORONTO, 1977-78**

A Cooperative Project:

Canada Life Assurance Company
Y.M.C.A. of Metropolitan Toronto
Fitness and Amateur Sport Branch
Department of National Health and Welfare



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This report is an expanded version of the program documentation submitted by Veronica Marsden and Paul Youldon, Fitness Coordinators, on behalf of the Y.M.C.A. of Metropolitan Toronto. Preparation and editing of the final report was the responsibility of Mall Peepre, Fitness Consultant, Fitness and Amateur Sport Branch.

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I RESEARCH PROJECT OVERVIEW

1. *Introduction*

Employee physical fitness is an idea whose time has come to North America. Such programs have been firmly established in European, Russian and Far-Eastern countries for many decades. Their adoption by large and small companies from these continents was not restricted to humanitarian reasons, but appears to be based on sound cost-benefit indices justifying their existence.

Business and industry lose many more millions of dollars yearly in Canada from absenteeism than from strikes and lockouts. Employee turnover, especially among senior executives, is a consistently costly experience faced by all companies. Job satisfaction is perceived as a critical element in the workplace; in fact, the prestigious Work in America* report noted that "the strongest predictor of Longevity was work satisfaction".

Although numerous studies and evaluations have suggested that employee fitness programs resulted in beneficial personal and corporate influences, no controlled study to 1976 had investigated the effects of a comprehensive fitness and health promotion program. As well, no controlled study had evaluated the corporate costs involved in implementing the program, as compared to the corporate and individual savings in terms of absenteeism, employee turnover and personal health care services.

2. *Project Chronology*

The first major step leading up to this project was the National Conference on Employee Physical Fitness hosted by the Department of National Health and Welfare in December 1974. Recommendations from delegates representing business, industry, labour, occupational health and physical education drew national attention to the importance of employee fitness and highlighted many important issues. Among issues to be addressed, Recommendation Number 12 stated in part:

"The Federal Government should develop and fund research programs designed to evaluate existing employee fitness programs, and analyse the cost benefits of these programs to the employers"**.

In the Fall of 1976, the Fitness and Amateur Sport Branch (also referred to as F. & A.S.) was approached by federal postal officials to consider the development of a pilot employee fitness program for one of the new computerized mail-sorting centres in Toronto. Concurrently, the receipt of a research proposal on employee fitness from Dr. Roy Shephard of the University of Toronto, and the availability of a Loto Canada contribution resulted in the conceptualization of the Employee Fitness and Lifestyle Study.

Due to internal problems in the postal department in the summer of 1977, the project centre was shifted from the Toronto postal facility to two alternate sites: the Canada Life Assurance Company as the experimental centre, and the North American Life Assurance Company as the control centre.

* Work in America, Report of a Special Task Force to the Secretary of Health, Education, and Welfare; MIT Press; Cambridge, Massachusetts; U.S.A.; 1973.

** Proceedings of the National Conference on Employee Physical Fitness, Department of National Health and Welfare, Ottawa, 1975.

The Employee Fitness and Lifestyle Project formally began in September 1977, with two distinct thrusts:

Part I: To develop and implement a "model" employee fitness and lifestyle awareness program in a large business.

Part II: To measure the effects of such a program on a variety of parameters, including health care costs, productivity, fitness levels, staff morale, absenteeism and job satisfaction.

In previous studies on employee fitness, most emphasis has been placed on the research component rather than the fitness program itself, resulting in low participation rates and high numbers of dropouts. Equal planning time and resources were devoted to the development and documentation of the fitness and lifestyle program, and the research, in this study. The purpose of this report is to describe the fitness and lifestyle program component (Part I, above) of the project.

3. *The Research Program*

The University of Toronto received a research grant from the Fitness and Amateur Sport Branch and Loto Canada to carry out a "controlled study of the effects of a well-regulated employee program in a large corporation". The major objectives of the research were as follows:

1. To define current fitness levels in a selected subpopulation of "healthy" adult office workers.
2. To determine by controlled trial whether current fitness levels of the adult worker relate to job productivity, and whether productivity can be increased by a well-regulated employee fitness program.
3. To determine the relationship between fitness levels and health costs, and to test whether health costs can be reduced by participation in an employee fitness program.
4. To examine the possible contribution of an employee fitness program to job satisfaction and general well-being in the adult population.

Baseline data on fitness levels, absenteeism, job satisfaction, productivity and health attitudes were obtained at both sites from September 1977 to January 1978. Both the North American Life Assurance Company and Canada Life Assurance Company provided space, time off for employees and publicity for the testing program. The success in attracting so many subjects for the study, and in obtaining the necessary data, was largely due to the tremendous cooperation and assistance offered to the researchers throughout the entire project by senior personnel in both companies.

In September 1977, three weeks prior to commencement of the formal testing, an information booth was established at each company to interest employees in the research project. Concurrently, the respective company newspapers carried extensive articles outlining the nature of the research project and promoting participation by employees. A written invitation to join the research project was mailed subsequently to each employee in the two companies. A total of 1,125 persons, representing 53% of the total combined employee populations, participated in at least one phase of the research.

Physiological tests were administered to subjects at both companies in September 1977, January 1978 and June 1978. These included measures of cardiorespiratory fitness, anthropometry, pulmonary function, flexibility and strength. Each subject also completed a lifestyle assessment in September 1977 and again in June 1978. Standardized tests were used for estimating psychological state, body image, attitudes toward physical activity, lifestyle risks related to health, medical history and problems, history and present level of physical activity.

In January 1978, the formal Employee Fitness and Lifestyle Awareness Program was launched at Canada Life, as described in the remainder of this report. The research subjects at North American Life continued to serve as the control group, with no organized fitness and lifestyle activities for employees.

Absenteeism data was gathered on a bi-monthly basis from October 1977 to June 1978. Two-year work output ratings evaluating productivity by department were supplied by both companies for the period prior to, and during, the research phase. The release of grouped Ontario Health Insurance Plan (OHIP) data giving related medical information and costs has been successfully negotiated for the spring of 1979.

The preliminary analysis of data has shown that the experimental group demonstrated significant positive results in several measures of physical fitness, including cardiorespiratory fitness (as indicated by an increase in predicted maximal oxygen uptake), reduction in percent body fat and an increase in flexibility. Stratification by fitness program participation showed that these changes were greatest in the high-adherence participants. This same group showed a reduction in absenteeism relative to both the control group, and to low-adherence participants in the experimental group. As well, this group demonstrated gains on a number of attitudinal questionnaires, particularly those concerned with the relationship of sport and physical activity to health.

The final compilation of further data and publication of the research results will take place during the spring and summer of 1979. Certain portions will be published in various scientific journals, and a general overview of the research will be available by writing to the Fitness and Amateur Sport Branch (see address in Appendix I). The research portion of the two-part project was carried out by the University of Toronto, Department of Preventive Medicine and Biostatistics. Close liaison was maintained with the chief researchers throughout the project by a Branch consultant, with periodic meetings of representatives from both companies involved, and the research team.

4. *The Fitness and Lifestyle Program*

The Y.M.C.A. of Metropolitan Toronto received a contribution from the Fitness and Amateur Sport Branch to finance the program, including the fitness staff, administrative support and supervision necessary to implement the program elements as outlined in the program activity structure prepared by the Fitness and Amateur Sport physical fitness consultants (see Appendix A). As well, the contribution provided for the development or acquisition of all required audiovisual materials and purchase of equipment. All aspects of the ongoing program were developed in close cooperation with the Branch consultant.

The Canada Life Assurance Company supplied an exercise facility and changing rooms in the basement of one of their buildings. Enthusiastic support from all levels of management and staff at Canada Life was instrumental in the successful implementation of both the fitness and the lifestyle awareness programs.

In October 1977, a Fitness Coordinator for the Canada Life program was hired by the Y.M.C.A., to be situated on-site at Canada Life, but maintain close contact with supervisory personnel at the Central Y.M.C.A. An Assistant Fitness Coordinator, plus a secretary, were hired at the end of December 1977, prior to the start of the formal fitness program. In February 1978, the Y.M.C.A.'s senior supervisory role was transferred to the North York Y.M.C.A. for the remainder of the project.

The Fitness Office at the Canada Life Assurance Company functioned as a 'mini-department' of the Y.M.C.A., for the purposes of this project. The two on-site Fitness Coordinators, Ms. Veronica Marsden (Department Head) and Mr. Paul Youldon, reported to Mr. George Rodger, Regional Director, North York Y.M.C.A., Y.M.C.A. of Metropolitan Toronto. Mr. Barry Patton, Personnel Officer at Canada Life, served as the company liaison to the program. The federal government consultant and liaison to the program was Ms. Mall Peepre, Fitness Consultant, Fitness and Amateur Sport Branch, Department of National Health & Welfare.

Names of the key personnel representing the four agencies involved in this project, can be found in Appendix B, along with a list of the part-time instructors hired for the fitness classes and the volunteer instructor training course.

Throughout the nine months encompassing the pre-program phase and the formal fitness and lifestyle awareness program, continual monitoring and evaluation were carried out by the Fitness and Amateur Sport Branch consultant and the Y.M.C.A. staff. Close liaison was also maintained with the research team director, to ensure that the fitness program elements corresponded to the original objectives. The professional calibre of the two fitness coordinators and other supervisory and administrative personnel from the Y.M.C.A. ensured that the quality of the program remained high.

The design for a comprehensive employee program consisting of fitness classes, special classes and events, an information campaign and a strong promotional component, was the result of four years of experimentation and observation of existing programs. In November 1974, a Fitness and Amateur Sport Branch consultant was sent to Europe to gain firsthand knowledge of examples of successful employee fitness programs prevalent throughout the highly-industrialized countries. This experience was followed up by the Branch with a small research study, acting as consultants to many fledgling employee fitness programs across Canada, and reviewing current programs offered by a variety of agencies.

With a dramatic increase in the number of private consulting firms offering services in this field, it became apparent that in many cases the fitness testing portion of employee fitness programs was being promoted excessively, to the detriment of the fitness programs per se. Pilot projects were designed, implemented and evaluated for the Post Office staff at Confederation Heights, Ottawa, and at the Department of National Health and Welfare in Ottawa.

As well, many physical educators were content to accept a participation rate of under 20%, which corresponded to other studies conducted in the United States.

Following an analysis of the various employee fitness studies and programs to date, the Fitness and Amateur Sport Branch felt that a well-integrated approach to a fitness and health promotion program in a business or industrial setting could provide the key to an increased rate of participation. Thus, the Fitness and Lifestyle Awareness Program for Part I of this research project was designed with the following general objectives in mind:

1. To increase the physical activity levels of a maximum number of employees by: a) the provision of top-quality group exercise classes, individual exercise prescriptions, and special classes (healthy back, overweight, etc.); b) the use of a variety of motivational techniques such as contests, promotion, music and apparatus in classes.
2. To increase the awareness of all company employees, of the relationship of lifestyle to health and well-being, by a variety of means including:
(a) a comprehensive information and education campaign
(b) a "model" nutrition program using the company cafeteria.
3. To document all aspects of the fitness and lifestyle awareness programs for future use in disseminating information to the employee fitness market in Canada.

Figure 1 is a graphic presentation of the interrelationship of the various program components.

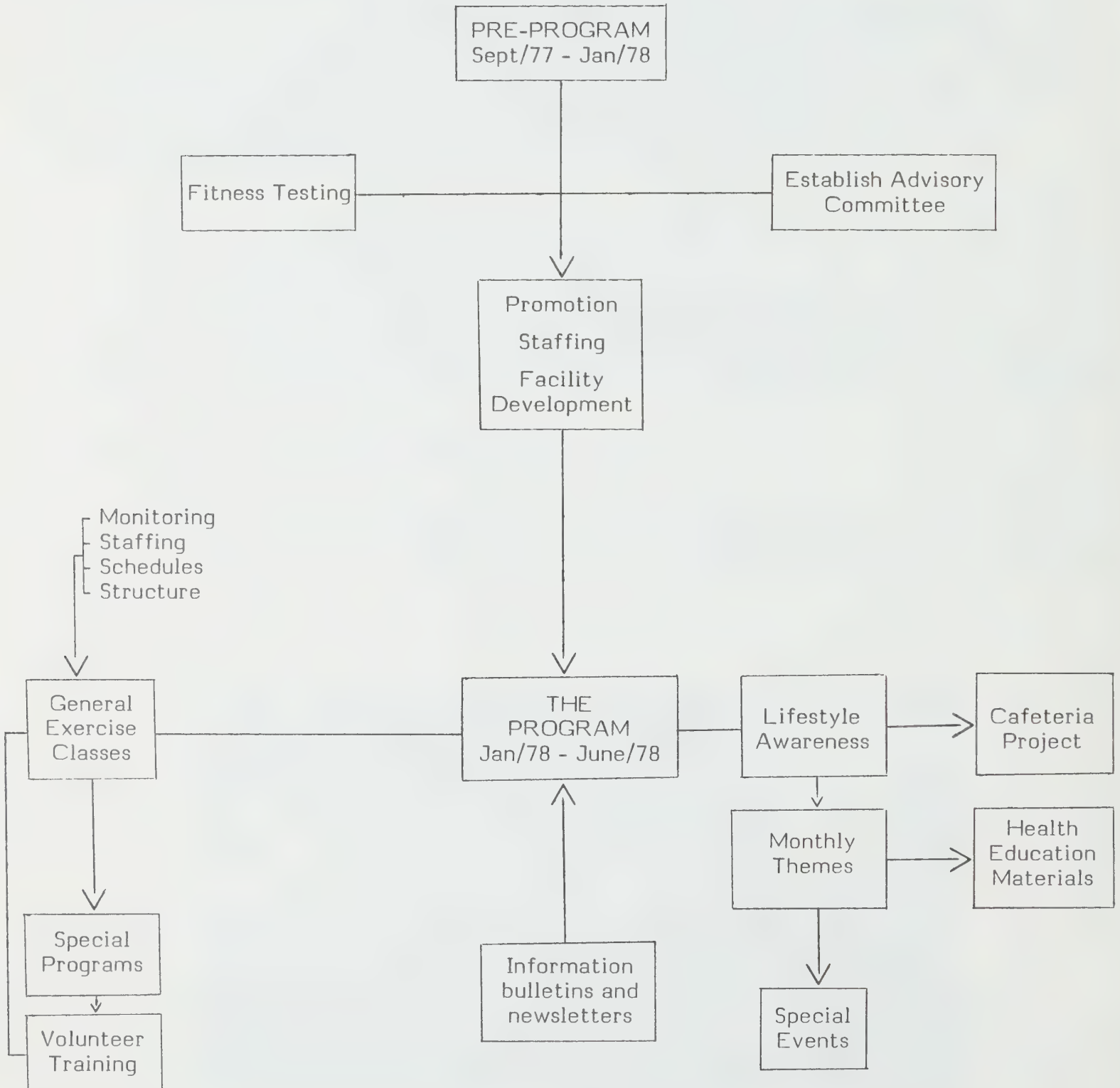
The following chapters of this report were written deliberately in an informal style, to allow for easier reading. The fitness and health promotion program presented here was a highly integrated one, with many factors being so interdependent that it would be very difficult to isolate the relative effectiveness of any one component. The major finding was unequivocal: a combined fitness and lifestyle awareness program is obviously much more successful than a physical fitness program alone, as evidenced by participation rates consistently approaching 50% of all employees.

Although many of the factors presented here may not be able to be duplicated exactly in other companies, the detailed description of the program will hopefully stimulate creative ideas more suitable for other situations. Where relevant, comments and suggestions have been added that may assist a fitness coordinator in program planning. Since no detailed, practical "how to" manual for employee fitness exists to date, an effort was made to add some information related to the actual running of a program.



Figure I

EMPLOYEE FITNESS AND LIFESTYLE PROJECT



II PRE-PROGRAM PHASE

A period of three months was utilized to prepare for the launching of the Canada Life Fitness and Lifestyle Project. Since the duration of the fitness program itself was confined to six months for the purposes of the research project, it was desirable to conduct an extensive promotional campaign in order to attract as many employees as possible to the fitness program. Other companies not bound by the limitations of a research project would not require as much time for initial preparation, but would be advised to implement the various components of such a program over a longer period of time.

The following is a list of functions performed by the fitness coordinator during October - December 1977, preparatory to the full-scale fitness and lifestyle education program in January 1978:

1. Meeting key people in the company, such as the personnel director, medical staff, staff association representatives, building manager, newspaper editor and advertising staff, who would be instrumental in the operation or support of certain facets of the project.
2. Establishing a fitness advisory committee comprised of representatives from different company departments. An advisory committee is essential to any size of program, and may in some cases be the determining factor in support of the program by the employees. Functions of such a group would include:
 - (a) approving budget expenditures;
 - (b) making recommendations for equipment and facility additions, and program changes, etc.;
 - (c) ensuring a quality program;
 - (d) providing a liaison between the fitness staff and senior management, and also between the fitness staff and the employees.

Key people on the Canada Life Fitness Advisory Committee included the two fitness coordinators, a senior personnel officer, a physician and the building manager. Where applicable, it would be wise to include a representative from the Occupational Health Unit, and also from the Recreation Association (or other employee-based group).

3. Development of the fitness program logo. This was done by one of the Canada Life artists, and was used on all printed materials related to the project. People learned to identify the logo with the fitness and lifestyle program, from newsletters and bulletins, to the promotional buttons and T-shirts utilized for special awards.
4. Recruitment of the support staff necessary for this particular project was done during the first two months of the project. A full-time secretary and four part-time fitness instructors were hired initially.
5. Visits and phone calls were made, and letters written to agencies such as PARTICIPaction and the Ontario Heart Foundation to gather the necessary health education materials. A bibliography of the printed resource materials utilized during the project is included in Appendix E page 55.
6. Facility preparation included:
 - (a) advising on final touches to the exercise area and locker rooms (eg., marking of track);
 - (b) putting up signs leading to the exercise room;

- (c) construction of bulletin boards in the vicinity of the exercise rooms; and
- (d) pricing and ordering of exercise room equipment (see Appendix J, for complete list).

7. Scheduling of fitness classes and instructors.
8. Registration for classes.
9. Designing of special wall signs and charts for the exercise room: charts for warm-up exercises, signs explaining the use of stationary bicycles, etc.
10. Conducting an information and awareness campaign related to various fitness-related lifestyle factors.
11. Development of the fitness assessment booklet used to give individuals their personal test results.

Promotional Work

During the latter part of the pre-program phase, a weekly series of noon hour films, seminars and workshops were organized to orient Canada Life employees toward the major focus of the project, and to capture their interest. These sessions were intended to help create an awareness of various lifestyle factors such as nutritious meal plans, the importance of exercise, etc. In order to attract as many people as possible to the above gatherings, inexpensive door prizes related to exercise were given at some sessions. This appeared instrumental in attracting larger numbers.

The following is a list of special noon hour events held at Canada Life Assurance Company prior to the onset of the fitness program itself:

- (a) Seminar: Meet the Fitness Director - This session was organized in order to give the employees a chance to meet the YMCA staff person in charge of the program. Detailed information regarding the program was shared by the fitness coordinator at this time.

The film Feelin' Great was also shown. This 21-minute film describes Canadians enjoying physically active lifestyles, and gives general information about the physiological benefits of physical fitness. It is well-suited as an introductory film for general audiences. (Attendance: 200)

- (b) Seminar: "Everything you always wanted to know about fitness but..." - This slide presentation focused on the evolution of physical fitness, the effects of technological advances on current fitness levels, exercise and coronary heart disease, and current trends in employee fitness.

Presented by: Art Salmon, Fitness Assessment Officer, Ontario Ministry of Culture and Recreation. (Attendance: 80)

- (c) Workshops: Nutrition Counselling - During this week-long event consisting of five noon hour workshops, employees were given the opportunity to have their nutritional status evaluated. Diet recording sheets were made available two weeks in advance of the workshop, so that participants could keep track of food consumption over three consecutive days. Employees were encouraged to include one weekend day, as it has been found that many people eat differently on Saturdays and Sundays.

Consulting booths surrounded by colourful posters were set up outside the cafeteria for the duration of the workshop. Three fourth-year dietetic students from the University of Toronto conducted the counselling.

In general, the dietetic students found that most individuals counselled were those who already possessed some knowledge of nutrition, although their dietary regimes needed modification. Very few obese or severely malnourished employees took advantage of this service. It was felt that this type of "open" workshop is attractive and educational for reasonably normal weight adults but that the obese must be reached in a different manner. A suggested solution was setting up special programs or discussion groups for overweight individuals.

Counsellors: Debby Barclay, Susan Rewko, Jill Shaver
University of Toronto

(Employees counselled: 150)

- (d) Film: Run Dick, Run Jane. Produced in the U.S.A. in 1974, this 20-minute, sound-colour film describes in detail the benefits of aerobic fitness activities. Narrated by Dr. K. Cooper, it focuses mainly on jogging and presents the physiological concepts as well as personal anecdotes. This film is good for audiences specifically interested in beginning or continuing fitness programs, rather than for general audiences. Most employees who attended this session had also come to at least one of the previous workshops. (Attendance: 100)
- (e) Display of Exercise Gear - Samples of exercise clothing for both men and women were displayed during noon hour outside the cafeteria. The event was planned in order to encourage the use of good quality jogging shoes and proper exercise attire. This type of display also helps to relieve anxieties about what to wear to the first exercise class. Judging by the number of employees who stopped at the booth to examine the shoes and clothing, and ask questions, this was a very successful event.
- (f) Health Hazard Appraisal and Counselling - The Health Hazard Appraisal (also referred to as H.H.A.) program of the Department of National Health and Welfare was offered to interested employees at Canada Life during the month prior to the start of fitness classes. The aim was to increase awareness of the total lifestyle spectrum, and thus encourage employees to join the fitness programs. Health Hazard Appraisal is a computerized risk assessment instrument designed to assist health professionals in educating and motivating their clients to adopt prudent lifestyles.

After completion of the questionnaires by the Canada Life employees, and processing of the data by the Department of Health and Welfare, a consultant from Ottawa gave a one-day training workshop on counselling to selected personnel at Canada Life. This group, which included the fitness coordinators, in turn conducted small-group sessions where employees were given their (H.H.A.) printouts and the results interpreted to them.

The service of Health Hazard Appraisal computer processing is currently provided free of charge by the federal government to Canadian health professionals who are willing to undertake the responsibility for the counselling session with each client. Within an employee fitness program, the Health Hazard Appraisal can provide the much-needed link between fitness assessment and awareness of personal lifestyle. The occupational health staff could be used to conduct this facet of the program, with a minimal time commitment. For further details about this program, please refer to Appendix C page 51.

III LIFESTYLE AWARENESS PROGRAM

The "lifestyle awareness" section of the project was basically a general health promotion program. This particular aspect is often overlooked by companies planning an employee fitness program, since it is more difficult to define its objectives and measure results. However, it is an integral part of a "complete" fitness program in that it not only motivates individuals to start (and continue) exercising, but it also enhances their knowledge of the role exercise plays in relation to general good health. This supportive role is extremely important in order to maintain interest in the fitness program itself, and to keep the participation rates high. Moreover, it establishes a natural link with company occupational health programs where these exist.

For those employees not involved in the fitness program itself, the lifestyle awareness program can provide them with interesting reading materials to share with family and friends, and perhaps eventually help them to reach the turning point whereby they commit themselves to an exercise program.

A comprehensive lifestyle education program should provide the information necessary for a basic understanding of various topics related to healthy lifestyles, as well as creating a spirit of involvement and commitment on the part of the employees. Thus, a blend of free "give-away" materials (eg. newsletters), together with participatory events such as seminars and contests, would constitute the most effective campaign.

There is mounting evidence that many people have lifestyles that may predispose them to premature coronary artery disease or other serious illnesses. It was the role of this portion of the program to present the facts enabling employees to become aware of their daily behavior, the goal of the project staff being to encourage and motivate program participants to reduce their personal health risks. The commonly accepted risks to health that are often self-imposed include the following: physical inactivity; high blood pressure; elevated blood lipids; obesity; stress; smoking; excessive alcohol consumption.

Some lifestyle education began in the pre-program phase of the Canada Life project. As mentioned earlier, this was designed primarily to increase awareness and to prepare the company for a comprehensive fitness and lifestyle program.

Each month was designated with a specific health or physical activity theme:

January	-	Nutrition Month
February	-	Heart Month
March	-	March Madness Marathon Month
April	-	Lifestyle Month
May	-	Family Fitness Month
June	-	Aerobic Month

Each monthly theme was presented to the employees via a combination of four vehicles, including: (1) films and seminars; (2) health education literature; (3) newsletters, brochures and bulletins; (4) physical activity incentive contests (discussed in the "Fitness Program" section).

The following section describes the use of health education materials, seminars and films, the nutrition education program entitled "Square Meal/Square Deal", as well as the use of newsletters and bulletins in the Canada Life Project. Comments and recommendations of a general nature have been added in certain cases, as they might apply to employee fitness and lifestyle program situations in other companies.

1. *Films and Seminars*

The principles of behavior modification reveal several techniques which can alter a certain health behavior. The principle of instruction was used in the presentation of films and lectures to convey the facts and begin the process of lifestyle modification.

All films and lectures were conducted at lunch hours on consecutive days, with staggered times, i.e. Tuesday at 12:00 and Wednesday at 12:30. This was done in order to allow fitness class participants to view a film or take part in a seminar without conflicting with scheduled fitness classes. Noon hour was selected as being the most suitable time when people were normally in the building and available to attend such sessions.

The following is a brief synopsis of all films, slide shows and seminars presented during the six-month program phase of the project. A listing of agencies handling the loan or rental of films mentioned here can be found in the Appendix D, page 53.

January - Nutrition Month

1. Seminar: 'The Role of Exercise in Weight Control'

The following areas were discussed: the present state of obesity in Canada; the influence of automation on inactivity; caloric imbalance; the effectiveness of low intensity aerobic exercise in reducing fat stores.

Speaker: Dr. Roger Seaman, Dept. of Physical Education,
York University (attendance: 100 persons)

2. Slide Show: 'Diet For Life'

This presentation examines the Canada Food Guide, fad diets, megavitamins, diet for weight reduction, cooking tips and other selected topics. (attendance: 75 persons).

3. Slide Show: 'Why Vegetarianism'

The vegetarian style of eating was introduced and discussed in relation to heart disease, longevity, nutrition patterns, food costs and meat diets. (attendance: 60 persons).

February - Heart Month

1. Film: 'Heart Attack/Counter Attack' (sound colour)

This extremely motivational film discussing the causes, prevention and rehabilitation of coronary heart disease was well-received by the predominantly male audience. (attendance: 100 persons).

2. Seminar: 'The Role Of Exercise In The Prevention And Rehabilitation Of Heart Disease'

This lecture focused on the key coronary risk factors and recommendations to reduce the risk of contracting heart disease. Regular physical exercise was prescribed as one of the most beneficial treatments for heart disease.

Speaker: Dr. Terry Kavanagh, Medical Director,
Toronto Rehabilitation Centre (attendance: 40 persons)

3. Film: 'I am Joe's Heart' (sound-colour)

This educational film examines "Joe", the typical North American office worker, who has allowed his work, poor dietary regime and lack of regular exercise get the better of him. Joe experiences a mild heart attack which frightens him enough to modify his daily lifestyle. (attendance: 30 persons).

4. Seminar: 'High Blood Pressure'

The causes and treatment of high blood pressure were presented. The speaker discussed the importance of prevention through stress control, dietary alterations, exercise and regular physical examination.

Speaker: Ms. Barbara Milne, Ontario Heart Foundation
(attendance: 12 persons).

April - Lifestyle Month

1. Film: 'Alcohol - Drug of Choice' (sound-colour)

This film is a social commentary on the current state of the use and abuse of alcohol. Popular attitudes, social roles and their relationship to alcohol are discussed in detail.
(attendance: 10 persons).

2. Film: 'Ashes to Ashes' (sound-colour)

Smokers from all walks of life confess their reasons for smoking and the roles of the cigarette in their lives. Medical doctors disclose how they treat chronic smokers and the various reasons behind success and failure. (attendance: 10 persons).

3. Film: 'I am Joe's Spine' (sound-colour)

This film examines the problems that "Joe" encounters during his normal working day with low back pain. It focuses on the prevention and treatment of this common musculoskeletal ailment. (attendance: 25 persons).

During May and June, the monthly themes were carried out via methods other than films or seminars. Due to warmer weather, it was felt that the emphasis at noon hours should be on participation in outdoor activities such as walking and jogging clubs (see "Special Classes"). However, the themes were still prevalent throughout the newsletters and bulletins.

Based upon the program evaluation survey questionnaire distributed to all employees, 60% of program participants and only 31% of non-program employees attended two or more noon hour presentations. This seems to indicate that those persons involved in regular physical activity usually exhibit more interest in lifestyle change and health in general.

Approximately 95% of those who attended any of the above sessions found the conveyed information very worthwhile. This implies that the topics were well-selected and presented, although the groups attending obviously were more receptive to this type of information than the average non-participant would have been.

Seventy-five percent of all the evaluation respondents felt that the times were conveniently scheduled, thus indicating that most employees were accommodated within the noon hour time slots.

Topics relating to nutrition, weight control and caloric balance appeared to be of general interest and therefore generated the greatest participation. Women in particular seem interested in this area and approximately 66% of the employees at Canada Life are female.

Cardiovascular health and heart disease are topics which generally attract a population over 40 years of age. Many employees could not identify personally with the subject, which probably accounts for the relatively low attendance figures for related educational sessions.

Following are some recommendations related to film and seminar programs, based on evaluation of this segment of the Canada Life Project.

- (a) Select educational topics which directly relate to the health and fitness of the employees. When health behavior change is recommended, the program should offer incentives and a system through which to practise such a behavior. For example, if dietary modification is recommended in order to reduce the risk of heart disease, posters and/or charts which focus on appropriate food selection should be displayed in the cafeteria.
- (b) Take advantage of the 'captive' audience in fitness classes to emphasize the importance of educational seminars and films. The people actively involved in the program tend to be more conscious about their health, and circumstances which could influence their well-being.
- (c) Schedule the special events at times convenient for the majority of people. Organize two or three presentations at split times to accommodate employees with different work schedules.
- (d) Advertising well in advance of an event is important in order to successfully promote an event. Advertising tools and techniques will be discussed in greater detail in the section on bulletins.

2. *Health Education Literature*

A wide range of printed materials related to the monthly themes were ordered for distribution to interested employees at Canada Life. Initial exposure to a particular topic was provided in the form of seminars, workshops and films, with considerable back-up resource material made available to those expressing an interest in further reading in certain areas. As well, various materials related to exercise or lifestyle in general were available from the Fitness Office.

All printed materials were distributed on the basis of a commitment of interest on the part of the individual.

Persons attending a seminar on heart disease, for example, may have received two or three booklets on that topic while other materials were advertised in the fitness Newsletter. In this case, people had to make a personal trip to the Fitness Office to pick up the brochure they wanted - that, in itself, constituted their expression of interest. At no time were company employees flooded with a barrage of unsolicited brochures and booklets in their mail. These materials were promoted as being special items, and thus only Newsletters and Bulletins were distributed en mass to employees. The underlying purpose of this approach is to prevent an "overkill" - that is, having employees reach a saturation point where they stop reading materials that come too frequently across their desks.

During the planning phase of this project, it was felt that there was a need for specific pamphlets designed for use in employee fitness settings. A portion of the grant money was set aside for these, and five different pamphlets were developed during a six-month period. Three of these were written by Fitness and Amateur Sport Branch staff, and two were done via contracts. The Canada Life Assurance Company advertising department handled the design and layout for the brochures, with editing done by the Fitness Coordinators.

The five brochures printed were as follows:

- 1) "Aerobic Fitness" - a discussion of aerobic vs. anaerobic work, how to measure aerobic fitness, the 'training effect' and how to start a program.
- 2) "You And Your Heart Rate" - this covers heart rate and exercise, how to take a pulse, target heart rate and related terminology.
- 3) "Physical Activity And Weight Control" - an overview of the main points to remember about losing or controlling weight.
- 4) "Lunch On The Run" - nutrition hints for office workers and others, who carry lunches.
- 5) "Exercise At The Office" - diagrams of 14 simple, desk-side exercises designed to stimulate circulation and release tension.

Sample copies of the brochures are available from Fitness and Amateur Sport Branch (see address in Appendix I page 63).

Besides the handout resource material, it is advisable for the fitness coordinator in a company to keep a small library of reference books related to diet and exercise. This helps when individuals seek advice concerning recommended paperbacks on specific topics such as Aerobics or weight-training. It also proves useful when volunteer leaders are being trained and need to borrow books for further reading in areas related to exercise physiology, ideas for classes, and so on.

Educational materials in greatest demand included low-calorie and cholesterol recipe books, calorie counters, diet books and the Canada Food Guide. The appendix includes a list of all health and fitness resource booklets that were ordered for distribution to company employees.

The following general recommendations apply to the use of health education materials for employee fitness programs.

- (a) Pamphlets should be concise, and written with the lay person in mind. Costly, thick, medically-oriented booklets should be avoided.
- (b) Educational handouts should be available at film presentations and seminars, with booklets relating to the topic being presented.
- (c) Locate some reading materials in the exercise area, to be readily available for fitness class participants. The participant who exercises regularly, reads and understands the rationale and benefits of physical activity, is more likely to adhere to his/her exercise program.
- (d) The library and health education materials centre could be coordinated with another office if possible, to make it more easily accessible. For example, perhaps the occupational health nurse would be willing to handle the distribution of materials.

3. Newsletters

A special fitness and lifestyle program newsletter can serve as the key vehicle for communication with company personnel, including both program participants and non-participants. Depending on financial resources, the newsletters may range from simple, inexpensive xeroxed copies of flyers, to an elaborate four or six-page spread with photos and drawings.

For a beginning program, the newsletter should not dominate the available funds, and thus a simple style and quality may be preferable. Artistic, creative and other resources within the company should be utilized to improve the scope and quality of the newsletter, as well as to create a "company spirit" whereby the employees are involved in as many facets of the fitness and lifestyle program as possible. A catchy title that is easily identified with the program, or a logo, can give continuity to the series of newsletters, and create an expectancy for certain information.

Once a "captive" audience has been established in the fitness classes, an awareness campaign can begin to focus on the more complex health behaviors, i.e. smoking, excessive alcohol consumption, hypertension, excess body fat, coping with stress, etc.

A comprehensive newsletter distributed in the pre-program phase may not be well received, since the employees are not ready for detailed educational and reinforcement material. People will not absorb information unless they can identify with the content. Only at the program stage will the employees be 'open' to comprehensive information on lifestyle habits. Thus, a pre-program newsletter should be light-hearted and full of information of a general nature.

The proper blend of academic topics and program information, plus a touch of humour, can result in a creative and original company newsletter which employees will want to read. Another purpose of the newsletter is to integrate all aspects of the fitness and lifestyle awareness program. Unless this is done, employees may not clearly see the interrelationship between fitness classes, lifestyle education material, cafeteria projects and the role of a company fitness director.

A copy of a sample newsletter from the Canada Life project is included in the appendix. All newsletters were from two to six pages long, and were similar in that they included:

- (a) a feature article giving psychological or physiological information on such topics as the role of exercise in heart disease, weight control, family fitness, low back pain and so on.
- (b) results of program incentive contests with special recognition to winners and/or participants.
- (c) the 'recipe file', a popular insert allowing readers to integrate 'new-found' nutrition facts into their kitchen. The focus was often on low-calorie recipes.
- (d) recently-obtained health education booklets and pamphlets were advertised as being available in the Fitness Office.
- (e) cartoons and humorous statements were used to make 'fun' reading. This helped to break the ice and soften up the reader for the more serious message usually included in the feature article.

The fitness newsletter was distributed to all employees through the internal company mail system, regardless of program participation.

Based on the evaluation questionnaire distributed throughout the company at the end of the project, the following differences were found between program and non-program employees, with respect to the newsletter:

- (a) 76% of all program participants read the newsletter in its entirety and 22% simply read certain parts. On the other hand, only 60% of non-participants read all of the newsletter and 29% read specific parts.
- (b) Participation in fitness classes was a significant factor in motivating individuals to read the newsletter.
- (c) 75% of all employees (regardless of program affiliation) felt that only certain parts of the newsletters were informative to them personally. 18% found the material useless while 11% found all the information useful.
- (d) 60% of all program participants felt the information important enough to be passed on to family and friends. However, only 40% of non-program readers passed the newsletters on to others.

From these responses, it can be concluded that a newsletter can be a very useful tool in providing a vehicle for communication, and educating employees about the benefits of health and fitness.

Based on the experience at Canada Life, the following recommendations were made for additional input into company fitness newsletters:

- (a) A Letter to the Editor section could serve the valuable purpose of encouraging continual feedback between the fitness coordinator and the program participants, as well as other employees.
- (b) A Question and Answer section could be utilized to explore diet and exercise fallacies and commonly-asked questions on related health and fitness topics.
- (c) An Exercise of the Month section could be included in order to allow the fitness director to focus on one particular area of the body in each newsletter (eg. exercises to strengthen the abdominal muscles). This section should include a graphic illustration of the exercise as well as a description of its proper execution.
- (d) The inclusion of short, thought-provoking awareness slogans can serve the purpose of increasing an awareness of lifestyle patterns. Organizations such as PARTICIPaction, Operation Lifestyle, The Milk Marketing Board and the Canadian Heart Foundation have developed excellent slogans which could be utilized for the above purpose.
- (e) Contests such as "Name the Newsletter" or "Design a logo for the fitness program" could be developed through the newsletter for two reasons: to assist the fitness coordinator with ideas; to promote involvement of company personnel.

4. *Bulletins*

Advertising in the promotional sense is used first of all to develop awareness, then to alter attitudes and finally to instill the motivation to change.

If a special event is coming up, maximum participation is desirable. Bulletins distributed to all employees of the company provide the fastest, most inexpensive and effective means of advertising and promoting an event. These would include a shorter "punchier" message than is delivered via the monthly newsletters.

A sample bulletin from the Canada Life Project is included in the appendix. Each bulletin was descriptive, yet brief. Bulletins were not intended to be educational in nature, but simply to give pertinent details regarding a specific event, and were usually distributed four to five days before an event.

A sample of each bulletin was posted on strategically located bulletin boards, i.e. the staff lounge, outside the gym locker rooms and the cafeteria. They were always bright yellow-orange in colour, eye-catching and easily identifiable. It was found that when several special events were advertised simultaneously too far ahead of time, attendance was poor.

The evaluation questionnaire revealed that about 97% of all employees read the bulletins and felt that they met the objective of providing details regarding upcoming events. Bulletins were considered valuable as an extra method of advertising special events, programs and workshops.

In general, periodic bulletins promoting one special workshop at a time are far more successful than one comprehensive calendar of events. In promoting special events, another advertising method could be for the fitness director to make him/herself available to display educational materials, upcoming events, and literature relating to special programs, outside the company cafeteria. This would help to 'personalize' contact with company personnel, create awareness, promote the program and offer incentives to attend upcoming events.

5. *The 'Square Meal/Square Deal' Nutrition Education Campaign*

The Canada Life Assurance Company cafeteria is subsidized, so it is possible for employees to buy a hot meal complete with salad, beverage and dessert, for far less than they could cook it at home. As a result, the vast majority of employees take advantage of this and eat their noon meal in this cafeteria.

During the research project, it was felt that the cafeteria presented an excellent opportunity and location to implement a nutrition education campaign that would touch a majority of company employees.

The program was divided into three phases: 1) Colour-coding of food served in the company cafeteria; 2) The development and distribution of educational handouts related to nutrition; 3) Promotional work to publicize the campaign.

The Canada Food Guide was used as a reference and foundation to teach nutrition education. Each of the four food groups was distinguished by a different colour, as follows:

<u>Food Group</u>	<u>Colour</u>
a) Meat & Alternates	red
b) Milk & Dairy Products	blue
c) Fruits & Vegetables	green
d) Breads & Cereals	yellow

The food selections in the cafeteria were colour-coded by placing a "two-inch square" coloured piece of cardboard directly in front of each item. Each square represented one serving from the Canada Food Guide. The primary objective of the campaign was to encourage the selection of nutritionally-balanced meals.

For example, the area for roast veal was designated with one red square, showing the consumer that he/she would receive one serving (2-3oz) from the meat and alternates (red) food group. The section of the cafeteria for bread and rolls was distinguished by one yellow square. Thus, one slice of bread or one roll fulfills the requirements for one serving from the bread and cereal group.

In every industrial and public cafeteria, there are extra-calorie, sweet items which contain few nutrients yet supply more than ample calories. At Canada Life, these items were purposely not colour-coded, to help the consumer quickly select food that would meet his/her nutritional needs.

The following food items were not colour-coded due to low nutritive value and excess calories, or not providing enough nutritional value to be equivalent to one serving from any food group: pastry desserts, butter pats, soups, gravy, sauces, french fries.

This type of colour-coding system helped employees select nutritious food while avoiding excessive calories. All employees who ate at the cafeteria were supplied with an informational guide to the 'Square Meal Calorie Counter' (see Appendix H) page 61.

Handouts were developed to provide employees with additional information relating to the colour-coding system and other nutrition topics. These handouts were placed beside the trays and cutlery at the beginning of the serving line. The information bulletins were accessible to everyone using the cafeteria, and sample sheets were posted on bulletin boards near the exercise facility.

These sheets were kept bright and simple, and included samples of "square" meals, a guide to weight-watching and a list of food selections, serving size and colour designation. During the launching of this program, it was often difficult to encourage cafeteria patrons to pick up and read relevant printed materials.

Instructional posters were developed, graphically illustrating the four food groups, a sample square meal and how to select a square meal in order to receive a nutritious, balanced lunch.

These posters were placed in strategic locations in the cafeteria line so as to catch the attention of employees. Each poster was purposely kept simple so that the message could be easily understood. Additional promotional posters (eg. from the Ontario Milk Marketing Board) helped to attract attention to the nutritious food offered in the cafeteria. These were located at the main entrance to the cafeteria so everyone in the building would see them at some point during a day.

A questionnaire was randomly distributed to cafeteria users in order to evaluate the effectiveness of the campaign. The results of this evaluation were very interesting, and provided ideas for the future direction of the nutrition education campaign. Following are some of the key findings:

1. 36% of those who participated in the survey also happened to be fitness program participants.
2. 30-50% of respondents felt there were too many high-calorie items offered in the cafeteria, and were generally discontent with food choices available to them. (based on results from 3 different questions).
3. 31% of respondents felt that the campaign led them to be more conscious of their dietary intake.
4. 60% of all survey respondents read the instructional posters and information sheets regularly.
5. 42% of employees surveyed stated that they would like to see more nutrition education.

Generally speaking, it was felt that the campaign was only partially successful in altering food selections; however, an increased awareness toward nutrition did occur. The recommendations listed below are based on the results of the evaluation survey.

- (a) A wide variety of instructional literature is required to educate the customer. Weekly or bi-weekly themes could be established on each colour group. These could include lists and illustrations of foods within a certain group, with information about specific items and such things as sample recipes, caloric equivalents, food history and the choices available within each specific food group.
- (b) The above-mentioned information can be conveyed via posters at open areas in the building where people congregate in their spare time. Additional one-page bulletins should be available beside the tray pick-up area for people to read at their leisure. Notices could be placed in see-through picture holders on cafeteria tables, for viewing while the individual is eating.
- (c) Nutrition awareness is the major key to the modification of eating patterns. Creative, motivational posters should be a priority in a nutrition education campaign. Examples include an attractive poster of nutritious food selections, or a series of slogans designed to help the employee examine daily eating habits (eg. 'You are what you eat').
- (d) The Square Meal/Square Deal system can be modified slightly to provide more information on high and low calorie choices within each food group. This would require the co-operation of the cafeteria management, in providing food alternatives within a given food group and different methods of food preparation to reduce the caloric content. Low calorie items could be illustrated by placing the letters CAL on the coloured square.
- (e) A weight-watcher or dieting club could be established either as a discussion group under the direction of the occupational health nurse or dietician, or a combination of discussion and activity. This weight control group could participate in fitness classes or walking programs available within the fitness program. The group could meet every other day to eat together and discuss various facets of dieting and nutrition, so as to reinforce each other's positive eating behaviors and provide moral support.

6. *The "Exercise Break"*

The Exercise Break is a six or seven-minute series of exercises that can be done in an office, classroom, conference hall or at home, without special clothing or equipment. Its aim is the provision of a short interlude of relaxation and movement intended to stimulate circulation, improve posture, relax tense muscles and counteract boredom or mental fatigue. Anyone should be able to participate regardless of age, sex or fitness level.

Originally, the program design for the Canada Life project included the introduction of the exercise break to various departments in the company. The success of the exercise break in an office setting is partly dependent upon minimal disruption of ongoing work by those not participating. At Canada Life the long-standing policy concerning mid-morning and mid-afternoon breaks has been that employees may go out into the hallway to the food dispensing machines and bring back coffee or a snack to their desks, but there is no formal "break" time. Thus, it was not possible to incorporate an Exercise Break program within existing policy guidelines.

Other demonstration employee programs have shown that the Exercise Break can play a significant role as a lead-up or adjunct to a comprehensive employee fitness program. Sedentary office workers are prime targets for these types of breaks. Besides the benefits of improved morale and alertness, the very nature of the Exercise Break promotes an active interest in exercise and acts as a "foot-in-the-door" to a greater personal involvement of the individual in habitual physical activity.

Many Exercise Break participants are recruited into exercise classes; moreover, the existence of the break program acts as continuous promotion for the exercise classes. Announcements of upcoming special fitness and lifestyle programs are most effectively done following the break each day.

With regard to work interruption, the selection of a suitable location and the voluntary participation minimize any problems. Experience in industrial and office settings has shown that employees usually return quickly to their work stations following the Exercise Break. For further information about use of the Exercise Break in business or industry, and how to obtain the music cassette and instruction booklet, see Appendix I, page 63.



IV FITNESS CLASSES

The "fitness program" portion of the total employee fitness and lifestyle program consisted of group exercise classes, some individualized exercise programs, motivational contests and special classes for certain employee subpopulations. Although only those participants involved in the group exercise classes on a regular basis were part of the research project itself, it was felt that the "extra" programs served an important role in maintaining interest and enthusiasm. In fact, most class participants joined in the contests and many also took part in the special classes such as the disco dancing or the "Healthy Back" program.

Throughout the project, the fitness program had a higher profile than the "lifestyle awareness" campaign, but each was designed to support the other. Many employees outside the research project group and not attending classes were involved in the health education program, but it was clear that regular participation in a structured, group exercise program generated a more active interest in, and awareness of, personal lifestyle habits.

The following section describes the exercise facilities, group programs and the volunteer leadership training program at Canada Life. Where relevant, comments related to recommendations for employee fitness classes in general have been added.

1. *Facilities and Equipment*

Two key ingredients for a successful group fitness program are an easily accessible and pleasant exercise area, and adequate shower and changing facilities. A program becomes much less attractive and more time-consuming to employees when they have to put on coats and walk a few blocks to an off-site exercise area.

On the same note, showers located close to the exercise area are a must. People exercise to refresh and relax themselves, and it is difficult to achieve such a revitalized state if one has to return to the office hot and sticky.

Facilities at the Canada Life Assurance Company consist of a group-exercise room along with two separate changing rooms for men and women, in the sub-basement of the building. This converted area was originally used for storage space. For exercise classes, there is no need to build an elaborate gymnasium unless the facility is intended to be used for recreational sports as well.

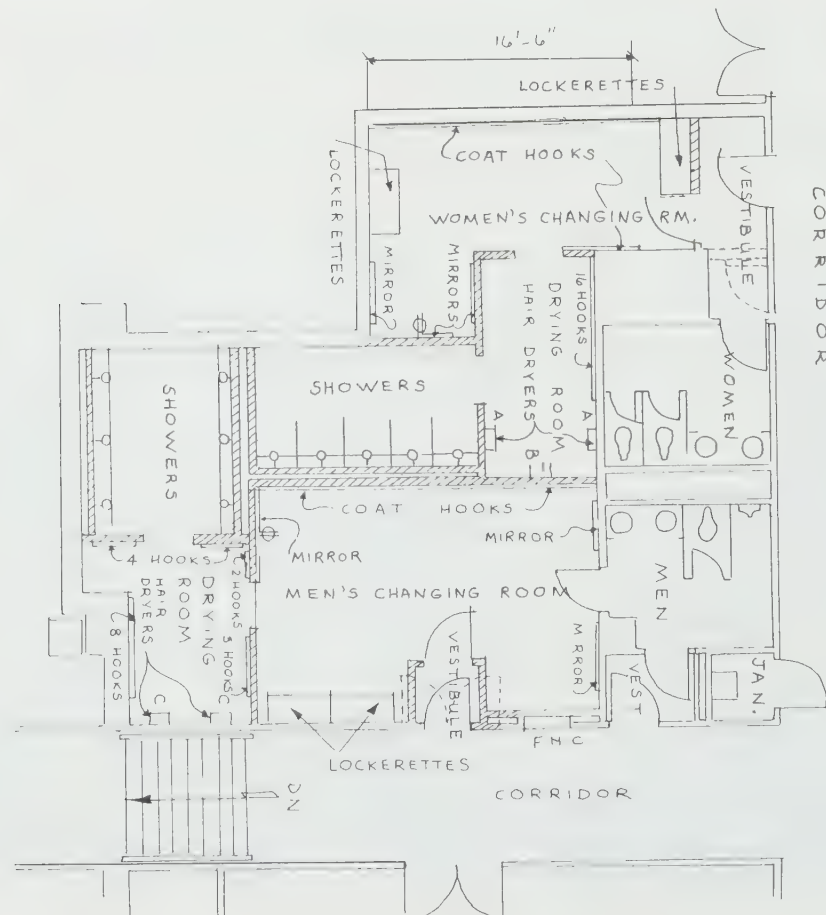
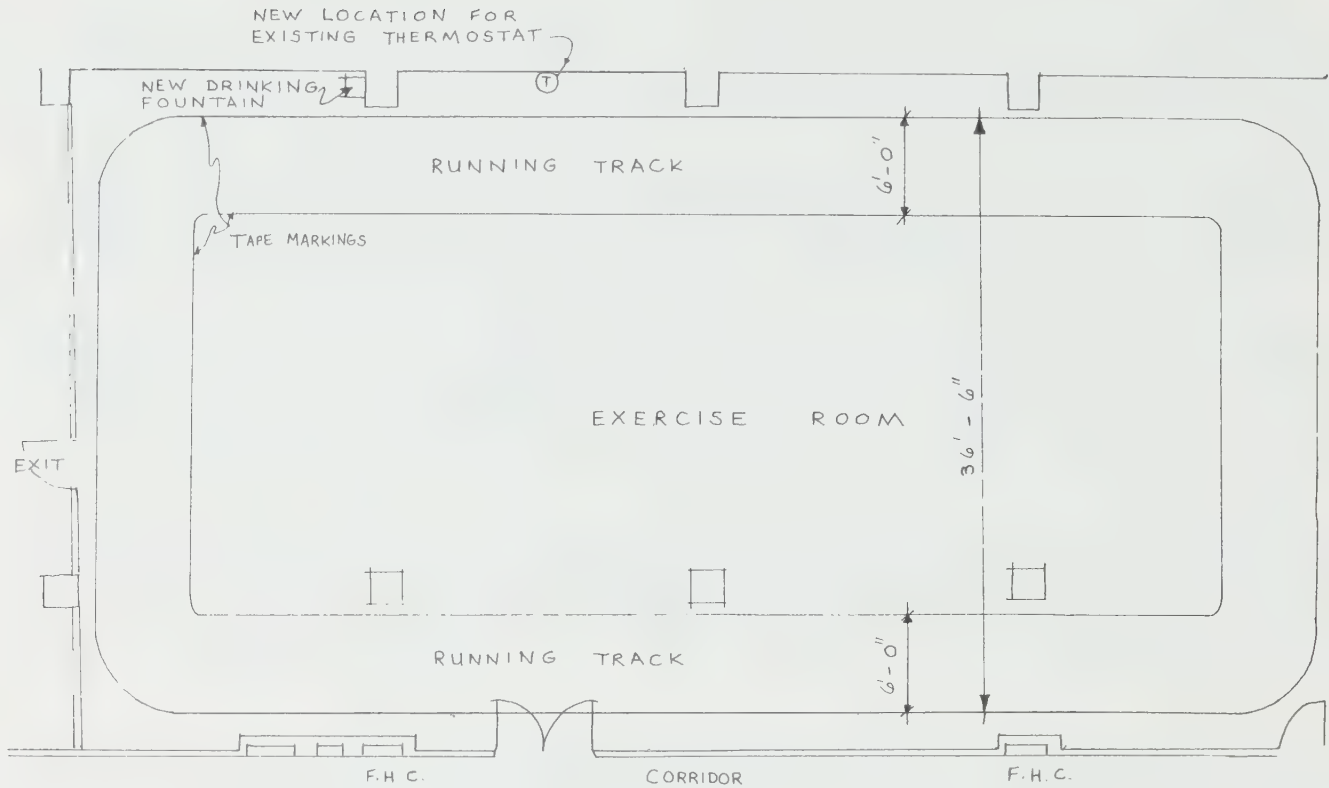
Ideally, a smaller room with weight-training and individual equipment would be an asset, but at Canada Life this was not possible due to space restrictions. Thus, a multi-purpose facility took preference over a special-use room.

A wall-to-wall carpet with a one-half-inch spongy underpad covers the 2,700 square foot exercise area (36 1/2 feet x 76 feet). This floor covering is recommended for an exercise room of this type, since it provides a cushion for jogging as well as making exercising on the floor more comfortable than it would be on tile or wood. A six-foot-wide track around the perimeter of the room was marked off with a 2 1/2" wide tape. Each lap around the track is approximately 65 yards.

Rather than installing a false, lowered ceiling which could cause air flow problems as well as take away from the feeling of spaciousness, the original concrete ceiling was left with all pipes and other paraphernalia showing. These were painted bright colors that added life to the room rather than detracting from it.

Figure 2

Fitness Centre,
Canada Life Assurance Company



The facility was primarily designed to serve as a group exercise area, and thus a minimum of permanent equipment was installed. The major investment was a good quality sound system including four wall-mounted speakers, turntable, amplifier and cassette tape deck. A portable unit is generally inadequate except for use in a small exercise area.

Two stationary bicycles, a chest pulley, one set of dumbbells, three 10-foot-long benches, one set of wall bars and a drinking fountain were also purchased and installed. The walls were decorated with large instructional charts on heart rate monitoring, warm-up exercises and use of the bicycles. Small equipment ordered for class use included 30 rhythm balls, 30 skipping ropes, 30 wands and several large medicine balls (for specifications and approximate cost see Appendix J page 65).

Even though the demand at the onset of the program was great for large apparatus such as a multi-station, weight-training machine, it was found that the novelty of existing equipment wore off very quickly as employees found the group classes more stimulating and enjoyable. In addition to this, almost 70% of the company, as well as program participants, were female and women in general are not attracted to body-building equipment. Of the few men who pushed for weight-training equipment before the program began, most joined classes and were not heard to complain again about the lack of such items.

Changing and shower facilities at Canada Life proved barely adequate to provide for the 300-400 people utilizing the facility daily. The men's change room consisted of six "gang" showers, leading into a drying area with wall hair dryers plus a large changing room area. The changing area was equipped with a full length mirror, benches, half-lockers and clothing hooks. Full lockers are unnecessary if the facility is in the same building where the employee works, since coats, boots and other large items can be left at the office.

Five shower stalls rather than one large group shower area were installed in the women's facility. Similar to the men's, drying and changing room areas were open. It has been observed that many women will not shower without a certain amount of privacy. Many female program participants changed in the toilet cubicles, often causing a lineup for use of the two toilets. Ideally, if space is available, a combination of changing and shower cubicles with group showers should be available, along with the open, drying and changing areas. Quite often the five shower stalls in the women's locker room at Canada Life proved inadequate for the 300 female participants. This was particularly evident after all-women's classes when up to 35 participants required shower and changing facilities.

Many women were found to be skipping showers due to the long wait, a practice that is not to be encouraged. If facilities are extremely limited, classes could be scheduled so that either the men or women have access to both shower rooms at the same time. This, however, would obviously restrict much of the program to segregated classes and force periods of at least 15 minutes between men's and women's classes back-to-back.

At Canada Life, all costs for construction of the exercise room as well as men's and women's shower rooms were borne by the company itself. Staff members from the Fitness and Amateur Sport Branch provided the initial consulting services for the facility planning, after which Canada Life took over all aspects of the facility construction and preparation. The sound system, exercise equipment and small hand apparatus such as skipping ropes and rhythm balls were paid for by the grant given to the YMCA by the Fitness and Amateur Sport Branch. For the detailed breakdown of the construction costs see the Appendix J page 65.

2. *Scheduling of Exercise Classes*

Exercise classes were scheduled at various times throughout the day to coincide with the company's flexible working hours. Since employees participated in the program on their own time, classes were organized before work, at noon hours and late afternoon. All classes were one-half hour in duration and the majority were held three times per week. Such a time frame is recommended to provide even minimal improvement in one's personal physical fitness level. In order to make maximum use of the exercise room five days a week, some classes met twice per week (i.e. Tuesday and Thursday). Participants enrolled in these classes were encouraged to exercise on their own to supplement the group program.

The ratio of women to men in the company (3:1) determined to a large extent the number of all-men's, all-women's and coed programs scheduled at Canada Life. It was estimated that the ratio of men to women in the company would be reflected in the number of men and women signing up for the program. This proved to be correct.

An important factor to consider in scheduling classes at the onset of a program is the initial inhibitions people have about being seen in somewhat revealing gym clothing. To be suddenly stripped of the security of a three-piece suit can be quite dramatic for many. This feeling is usually exaggerated with older or overweight participants. It has also been observed that women, more than men, are intimidated by having to exercise with the opposite sex. For the above-mentioned reasons, a higher ratio of segregated classes to coed programs should initially be scheduled.

Once people feel comfortable with the exercise program, these inhibitions slowly disappear and the need for so many segregated classes diminishes. This does not mean that all segregated classes should be eliminated - the option of exercising solely with one's own sex should always be available. Quite often there is a need for some all-women's classes geared to those preferring the rhythmic or dance approach to exercise, while there may be a request for an all-men's class devoted primarily to aerobic activities.

Based on the number of participants, lunch time classes proved to be the most popular. Employees choosing to exercise at this time, had to budget their three-quarter-hour break very carefully in order to allow changing and shower time. Participants were encouraged to pack a lunch or buy a portable meal (i.e. sandwich, milk and fruit) from the cafeteria rather than skip the meal altogether. A brochure entitled "Lunch on the Run" was developed to assist noon hour exercisers in planning this important meal.








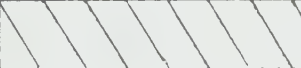






Early morning and late afternoon classes were generally not as well attended as the midday program, for various reasons. Many people complained of not being physically "up" for exercise at 7:30 or 8:00 a.m. Others, living in the suburbs, found the rescheduling of buses, trains and car pools too inconvenient. This same problem provided a deterrent to participation in late afternoon programs. In a company with a large proportion of women, after-work classes are a problem since many women are in a rush to get home to prepare dinner or tend to children. In addition to the above reasons, people generally do not have outside personal commitments at noon hours and therefore this time period is conducive to attracting many participants.

Despite the aforementioned, it should be noted that although relatively few employees in total participated in the early morning workouts, the 7:30 a.m. class boasted one of the lowest dropout rates and displayed a consistently high attendance rate. The atmosphere in the class was also observed to be the most jovial. Various instructors assigned to this class over the six-month period had few problems in establishing good rapport with the group. The exercise class schedule shown in Figure 3 illustrates use of the exercise room during the second session, March - April 1978 at Canada Life. The greater number of women and mixed classes, compared to men's, reflects the population breakdown of the company.

Figure 3

CLASS SCHEDULE

SESSION II MARCH 6 TO MAY 5, 1978

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
7:30	Co-ed		Co-ed		Co-ed
8:00	Co-ed		Co-ed		Co-ed
8:30					
9:00					
9:30					
10:00					
10:30					
11:00	Women		Women		Women
11:30	Co-ed	Women (over 45's)	Co-ed	Women (over 45's)	Co-ed
12:00	Men	Women	Men	Women	Men
12:30	Women	Co-ed	Women	Co-ed	Women
1:00	Co-ed	Co-ed	Co-ed	Co-ed	Co-ed
1:30					
2:00					
2:30					
3:00					
3:30					
4:00	Co-ed		Co-ed	Co-ed	
4:30	Co-ed		Co-ed	Co-ed	
5:00					
5:30					

Free gym time, supervised



3. *Registration*

The six-month program was divided into three consecutive eight-week sessions. Short sessions of eight to 12 weeks have proven to be more effective in motivating participants than longer, continuous sessions of undetermined length. Even though a high level of fitness cannot be achieved in only eight weeks, people generally respond better to a beginning and an end to every activity. In eight weeks, short-term goals can more easily be set and achieved. This in turn provides the necessary motivational stimulus to continue, and establish new goals. It has also been observed that if a participant drops out part way through a session due to illness or other personal reasons, there is a tendency to wait for a new session to start before coming back. If sessions are short, this lay-off period is not extensive.

Initially, employees were permitted to register for only one exercise class, held two or three times per week. This restriction was necessary due to the large number of employees interested in the program, and to allow greater opportunity for personal interaction between instructor and participants. As well, development of an "esprit de corps" was considered to be very important at this point in the program.

At the end of the first session a second registration was held, with employees permitted to switch classes at this time. The majority of employees re-registered with few changes being made. In order to accommodate the influx of new people into the program, a low-intensity exercise class for newcomers was scheduled. Others were integrated into regular, on-going classes.

If at all possible, it is preferable to keep new members in special groups and then slowly integrate them into the more vigorous exercise classes. This is important in order to prevent the newcomers from trying to keep up with a more advanced class and perhaps becoming discouraged too early if they cannot.

By May 1978, class numbers had stabilized and in some cases employees were allowed to register for more than one class. Approximately 90 participants took advantage of this privilege. The inherent danger in allowing too much freedom in switching back and forth between exercise classes is that it then becomes difficult for the instructors to advance a class as a group. It is advisable to restrict this privilege to specified class periods only, and not make it a universal rule for all fitness program members.

At the beginning of each session a registration fee of \$10.00 was collected from each member. This money was not utilized to offset direct program expenses, but provided promotional T-shirts and special participation awards. The enrolment fee was employed to screen out people who might simply come once or twice out of curiosity, since a monetary commitment seems to be the first step toward a truly personal effort to adopt a program.

The Canada Life program was obviously very different because it was a research project, sponsored by federal funds. Companies with limited financial resources could easily charge a much higher participant fee in order to recover some or all on-going operational costs, including instructors' salaries.

In planning and organizing an ongoing fitness program of interest to a maximum number of employees, seasonal changes must be taken into consideration. Understanding what motivates people to exercise at different times of the year can be crucial to the success of a promotional campaign.

Fall and winter (just after the New Year) are probably the best seasons for attracting new members to the program. During these periods, many new personal resolutions are made and people are striving for a certain degree of self-improvement. The spring season can also attract many people if promotional campaigns are centred around personal appearance; for example, "Looking Good in Your New Swim Suit!"

The summer months will normally see a dramatic decrease in attendance figures due to warmer weather and holidays. Informal walking and jogging clubs are preferable to structured classes at this time. At Canada Life, loosely-structured jogging groups were promoted, beginning in May and June outdoors, and formal classes were kept to a minimum during July and August.

4. *Staffing*

For the duration of this project, classes were led by the two fitness coordinators and highly-qualified part-time instructors. What helped to make the Canada Life project unique was the diverse background of the instructors, many of whom were part-time employees of the Metropolitan Toronto YMCA. Most of the instructors had extensive backgrounds in the use of music, rhythmic or dance in fitness classes, and thus were able to create an enjoyable and interesting exercise environment.

There were several reasons for the utilization of experienced fitness instructors for this demonstration project. Being part of a research project of short duration, it was necessary to maintain strict control over program quality and content. As well, there was not adequate time in the pre-program phase to properly train a group of in-house volunteer leaders. Other companies with a more flexible starting time frame should be able to run a very successful fitness program right from the initial stages with properly trained volunteers. A suggested training program for fitness instructors is discussed in a later section.

Since the Canada Life program was to serve as a "model" employee fitness program in addition to its function in the research project, one main objective was to show that program attendance was closely related to the quality of the classes. To this end, it was felt that the use of instructors having a variety-oriented approach to exercise classes would be more effective than more "traditional" and somewhat rigid styles of leadership. This premise was proven overwhelmingly by the participation rates of the Canada Life program compared to many other employee fitness programs documented during the past few years.

A full-time or part-time professional physical educator is crucial to the success of any fitness program. Without continual upgrading and monitoring, both the enthusiasm and performance of volunteer instructors quickly declines. A professionally trained director would also be responsible for individual programming and personal exercise prescriptions, and any remedial or special exercise programs.

5. *Fitness Class Structure*

Most classes followed a similar format, consisting of a warm-up, a segment for cardiorespiratory fitness, a series of exercises for muscular endurance followed by a cool-down period which tapered off to a few minutes of relaxation at the end. The relative time spent during the class on each of the aforementioned phases varied with the fitness levels of participants.

A typical beginners' class, for example, may consist of: a long warm-up (up to nine minutes) of locomotor activities plus flexibility exercises; a four or five-minute, low intensity aerobic workout; a 10-minute segment of muscular endurance and flexibility exercises for specific body parts; a seven-minute cool-down comprised of some locomotor movements, some standing rhythmical movements and perhaps three minutes of relaxation exercises in sitting or lying positions. In contrast to this, an advanced class may include a six-minute warm-up, an aerobic workout of 12 minutes, a seven-minute calisthenics portion, plus a five-minute cooldown.

Most noon hour classes in employee fitness programs can only be 30 minutes in length, and thus it is difficult to fit in all the fitness components adequately. Rather than concentrate on any one specific component, it is suggested that participants be exposed to a good combination of aerobic, muscular and flexibility exercises. Any participants who then wish to advance further in the area of aerobic fitness, would be encouraged to join a special jogging club or supplement their program on their own through other activities.

Even a short period of cardiovascular conditioning by jogging in a small room can get quite boring, and it is imperative that many alternatives be used to maintain interest. Simple dance steps such as the polka, Schottische and Charleston were used very successfully in both the men's and women's classes at Canada Life. Skipping ropes, varied jogging formations and stationary bouncing routines were also used frequently to avoid monotony. One added benefit of using a variety of steps and movements was the tremendous improvement in the motor ability (namely, coordination) of participants. Toward the end of the sessions, some instructors were even using "jazz" dance steps with coed classes since participants were able to learn the movements immediately, a necessary factor in maintaining the continuous nature of the aerobic workout.

Each class was limited to 35 members, due to space restrictions in the exercise room. This turned out to be an advantage since it was much easier to establish group rapport than it would have been with very large classes. As well, it is difficult to control and monitor a very large group and it is very important for the instructor to be able to observe all program participants in order to spot those needing special assistance.

Initially most classes were held to a low level of intensity with suitable progression from week to week. The class for women over 45 years of age and the all-men's class were taught at an even lower level. One intermediate class for employees already active on a regular basis was included in the overall program design. By the end of the six-month project most classes were operating at a similar level of intensity.

All instructors tried to vary their classes as much as possible to eliminate the boredom often associated with traditional fitness programs. Variety was incorporated into the classes through the use of circuits, interval training, dance steps, partner exercises, wall exercises, rhythm and play balls, skipping ropes, wands, simple relay events and games. The intent was to give participants the feeling that there was always something different, that they never knew exactly which exercises or apparatus were going to be used. This approach was instrumental in keeping up the attendance rate.

These items were used as often in the all-men's class as in the coed and women's program. Traditionally the use of small equipment has been linked to dance and rhythmic, and thereby restricted to women's and mixed classes. However, as a result of the careful introduction of the apparatus into the fitness classes, the Canada Life evaluation survey indicated that the men appreciated the variety and music as much as the women. On many occasions the fitness coordinators observed men exercising on their own during free

periods with skipping ropes and balls. Within any general fitness programs, it is obviously much easier to maintain interest through variety with no need for specially designed classes for men and women.

6. Educational Component of Classes

In order to encourage program participants to take responsibility for their personal fitness progress, an educational component was included in each class. Employees were taught the basic principles of exercise so that they would develop an appreciation for proper exercise techniques as well as an understanding of associated training effects.

During the first week of classes, instructors took advantage of the fact that the opening of the exercise room was delayed one week and groups had to meet temporarily in the staff lounge. The following topics were discussed or demonstrated:

1. The importance of good dietary patterns
2. The regulation of exercise intensity through heart rate monitoring
3. Exercise precautions
4. Proper exercise clothing
5. The principles of a warm-up and cool-down
6. Jogging techniques

Much of the above information discussed the first week was reinforced and elaborated on throughout the program. The instructors were required to be available for 15 minutes before and after each class taught, to answer questions, allow personal contact with participants and deal with any special problems. This proved to be an important step in establishing a good relationship between an instructor and participants. Many people used their instructor as a sounding board for personal problems of various kinds, from losing weight to how to deal with "shin splints".

The educational component of the fitness program was judged by the instructors to be an important element in keeping people motivated to continue exercising. It has long been recognized that once people are involved in a regular exercise program they become more aware of their bodies physically, and thus are more likely to exhibit an interest in other related areas such as nutrition, smoking and perhaps alcohol intake.

7. Use of Music

Music is doubtless one of the greatest motivational tools in fitness instruction. Just as music is utilized to create a relaxing environment in a dentist's office or a "spending spirit" in shops, well-chosen music can create a stimulating and enjoyable exercise environment.

All fitness classes at Canada Life were designed with music as an integral part and not just as background. The evaluations by participants at the end of the project showed overwhelmingly that they preferred to work to music, men included! As a matter of fact, on the few occasions when problems developed with the sound system and some classes were done without music (or with inferior taperecorders), there was considerable grumbling about this.

Music in fitness classes is most effective when each particular selection is suited to specific exercises in terms of tempo and mood. For example, "marching" type of music (metronome speed of 116-126) with a strong beat in the melody is most suitable for walking exercises as in the warm-up or cool-down. Calisthenics are best done to four-count music with a dominant underlying beat of metronome speeds from 50 to 90 (i.e. counting double beats).

Music can also be used effectively in setting the pace of the activity. Metronome speeds of approximately 130 to 154 are suitable for polka steps, skipping, "disco" steps, Schottische, crossover steps, pedalling, and so on. The range of 148 to about 160 beats is conducive to slow jogging, while a rhythm of 166 to 174 constitutes a fast jog or run. For locomotor movements, the underlying beat must be very heavy and consistent to encourage the feeling of fast movement, while the music used for floor exercises should be somewhat lighter in tone yet have an easily discernable rhythm. The cool-down and relaxation section of the class calls for the use of rhythmical but lighter music, perhaps ending with a very slow, soothing orchestral number.

Instrumental music is preferable to vocals, since the voice and words of a vocal number can be very distracting. It is especially difficult for the instructor to maintain interest in the explanation of a particular exercise when he or she must compete with a popular singer. However, vocals are quite acceptable for the relaxation at the end, or the aerobic portion of a class where people are concentrating more on the activity itself. Often the use of a popular piece of rock music for jogging can spur the class on to work harder and maybe even sing along with the words.

It is imperative that the tempo of the music be suited to the tempo of the exercise, since many participants may find it difficult and annoying to hear a rhythm and then not be able to follow it. That is, if an instructor will not take time to plan for appropriate music, it may be advisable to leave it out altogether.

During the Canada Life Project, the instructors were expected to prepare their own tapes or use those prepared by the fitness coordinator. A large supply of blank cassettes and long-playing albums were bought from the grant money allotted for equipment and supplies. These albums covered a wide range of instrumental styles - "big band" sounds, pop-instrumental albums, marching music, piano music, banjo music, ragtime and honky-tonk music, some semi-classical albums, rhythmic gymnastics albums, etcetera. With the addition of their personal records, the instructors had a good selection to choose from. This favourably influenced the quality of the music used throughout the program.

For employee fitness programs it is usually not feasible to buy a piano and hire a pianist to accompany the exercises, although this method greatly enhances the class atmosphere and cuts down the preparation time required by up to several hours per class.

For "canned" music, tapes are far superior to the use of records. Pre-recorded music ensures a balanced, well-planned class since the duration and tempo of specific portions of the workout are selected beforehand. Also, tapes are far more durable and portable, and maintain their sound quality far longer. With the use of records, the instructor loses flexibility in class content and format by having to plan around a particular album. If a number of records are used, the instructor is constantly having to stop the class to change records - a very distracting activity.

8. *Fitness Class Attendance*

Fourteen group fitness classes, meeting two to three times a week, were scheduled during peak exercise months at Canada Life. Due to space restrictions, registration was limited to 35 participants per class. With smaller numbers, instructors were better able to monitor the progress of each participant as well as develop class rapport.

In order to keep track of the adherence rate of each class, attendance was monitored daily and statistics tabulated monthly. For the purpose of the research project, exercise

class dropouts were classified as anyone who ceased attending classes at the end of the first or second session. "High adherers" were those that attended two or more classes per week, with "low adherers" attending less than two classes per week.

Of the total of 486 employees in the research sample who started fitness classes in January 1978, the following dropout and attendance rates were observed at the end of the six months of classes:

High Adherers	-	45.6%
Low Adherers	-	34.9%
Dropouts	-	19.5%
		<hr/>
		100.0%

These figures do not account for those participants who did not undergo the testing procedures, but who remained in the program throughout. As well, employees who were given individualized exercise prescriptions and were supervised during the 'free' gym periods, were not included in these totals.

It should also be noted here that close to 600 employees took part in the fitness program but only 486 formed part of the research project. Many people only joined special programs such as the "Healthy Back" class while others did not register until the second or third session, thus disqualifying them from being part of the formal research project.

A good cross section of employees from clerical and secretarial levels to middle and senior management positions participated in fitness classes. Table A gives a breakdown of program participants by profession.

It is interesting to note that although female clerks accounted for the highest fitness program population, female managers and male officers boasted the highest relative participation percentages, 50% and 44.4% respectively. The presence and support of senior personnel in the program was considered to be helpful in promoting the program to the other employees.

Program participants ranged in age from 18 to 71 years. Canada Life employs workers in certain areas up to the age of 75; therefore, several participants were in the pensioner category. Table B gives an age and sex breakdown of Canada Life employees who took part in the research project.

Maintaining a high level of attendance at fitness classes is an ongoing challenge for any program coordinator. An important step in achieving this is regular checking on participants who miss more than a few classes in a row. For example, a personal phone call from the instructor is the most successful means of motivating individuals to resume their exercise program. This can be rather time-consuming, but well worth the effort.

Another effective method of following up absences is to send out personal notes. At Canada Life, special cards with "I Miss You" on the front were developed for this purpose. Upon receiving a note signed by the instructor, many employees phone to explain their absences, and most returned shortly to their classes. Additional ideas for preventing dropouts are discussed in other sections of this report.

TABLE A
CANADA LIFE ASSURANCE COMPANY PROFILE

Category: Sex & Occupation	N	% of total Company	Number of Program Participants	% of this category in the program	% of total program participants
Female Clerks	498	35.4	124	24.9	30.8
Male Specialist B	188	13.4	39	20.7	9.7
Female Secretary	152	10.8	35	23.0	8.7
Female Specialist B	103	7.3	40	38.8	9.9
Male Officers	99	7.0	44	44.4	10.9
Female Supervisor	95	6.8	35	36.8	8.7
Female Specialist A	80	5.7	29	36.3	7.2
Male Managers	58	4.2	21	36.2	5.2
Male Specialist A	51	3.6	14	27.5	3.5
Male Supervisor	27	1.9	6	22.2	1.5
Male Clerks	22	1.6	0	0.0	0
Female Managers	20	1.4	10	50.0	2.5
Other	15	10.6	5	33.3	1.2
TOTAL	1408	100%	402*	--	100%

A - Underwriters and Non-supervising Specialist

B - Data Processing and Print Shop

- N.B.:
- Specialist "A" ranks slightly higher than a supervisor according to salary and level of responsibility
 - Specialist "B" ranks slightly lower in responsibility and salary than a supervisor.

*This figure represents those employees who registered for classes prior to commencement of Session 2, in March 1978. Late registration brought this figure up to the total of 486.



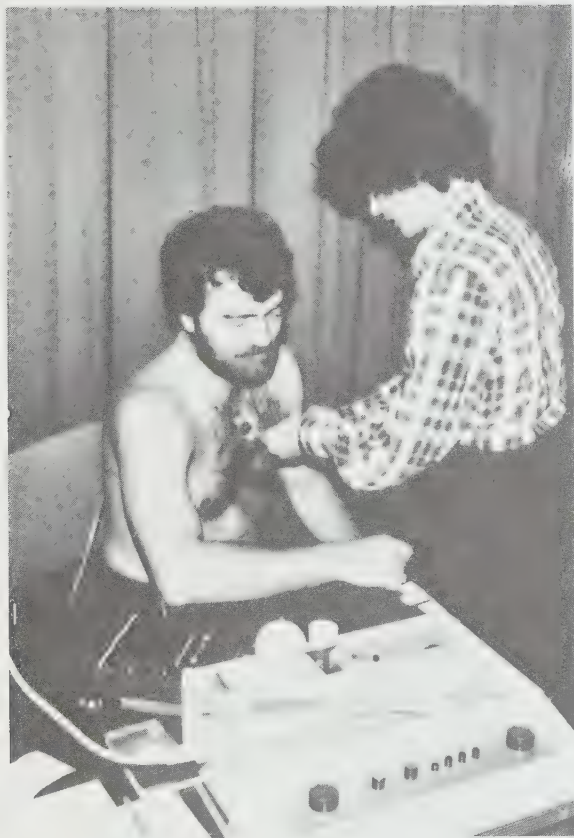
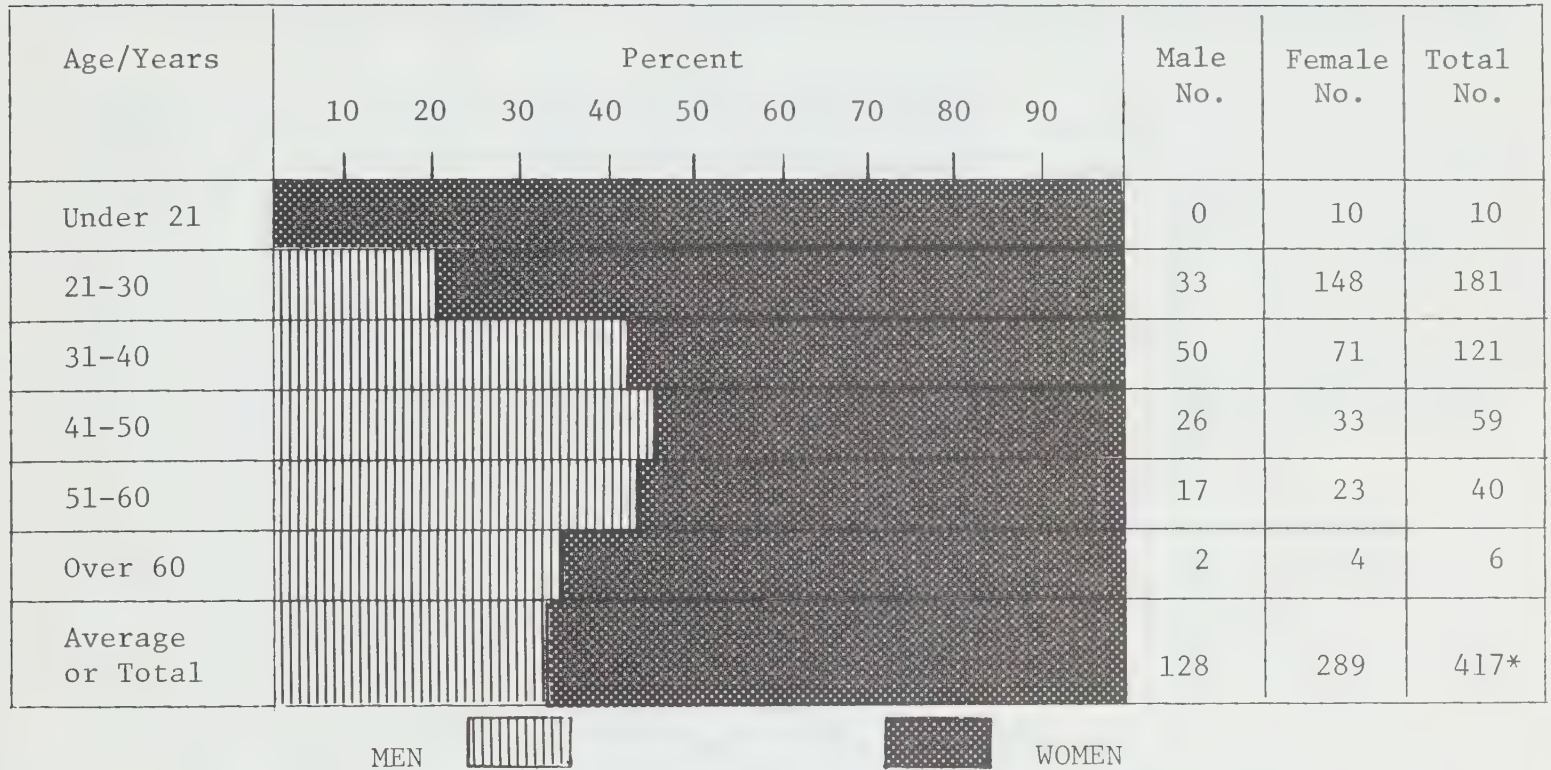


TABLE B

Percentage Distribution of Fitness Class
Participants By Age and Sex



*This figure represents the sample taken from attendance records over two consecutive days, and does not account for absences on those days.

9. Fitness Program Evaluation

In early July 1978, after the formal fitness classes within this project had terminated, a questionnaire was distributed to all company personnel to obtain feedback concerning the program. Non-participants were invited to fill these in as well, giving their reasons for opting out of the classes. 75% of the 486 fitness program (and research) participants returned the evaluation form, compared to 12% of the non-participants.

Of the 365 participants who responded, a large majority listed "increasing fitness level" as their primary reason for joining the program. Three other reasons rated close behind: "to lose weight"; "to release tension"; "to have fun". "To get fit for sport" and "peer pressure" were indicated by fewer people as important in their motivation, plus a number of other personal reasons given by individuals.

The reasons given by the 117 non-participants for not joining classes ranged from "rather exercise on own" and "lack of time" as the most frequent responses to simply lack of interest, or dislike of exercising. A number of people also presented the expected medical problems, as well as personal reasons such as embarrassment about an overweight problem.

Participant satisfaction was measured by respondents being asked to rate whether or not their personal objectives were met during the fitness program, by indicating one of three answers: "most", "some", or "few". 85% of the males and 63% of the females indicated that most of their objectives had been achieved. 12% of the males and 38% of the females chose "some" as their rating, leaving only 3% of males, and of females, with a response of "few" objectives having been met.

Among the 20% who dropped out of the fitness program, the most common reasons were: lack of time, laziness, injury (outside program), conflict with vacation time. There were also a host of other personal reasons, such as lack of enjoyment, job-related problems, feeling too hot after classes, dislike jogging, and so on.

In an ongoing fitness program, it is important for the coordinator to evaluate the program periodically, particularly to find out specific reasons why people are dropping out of, or staying in, the classes. Sometimes a written questionnaire can bring feelings out into the open that participants may be too timid to express verbally.

Concerning the fitness classes, the participants were asked to rate six aspects of the classes on a scale of one to five, with five being the highest rating. The following chart shows the "mean" ratings by men and women, for each aspect:

	<u>Men (N=88)</u> <u>Mean Rating</u>	<u>Women (N= 277)</u> <u>Mean Rating</u>
Class Variety	4.3	4.0
Use of Equipment	3.7	3.6
Use of Music	4.6	4.4
Type of Music	4.5	4.2
Class Content & Format	4.4	4.1
Satisfaction of Activity Needs	4.2	4.2

The interesting trend seen in this chart is that there was very little difference between men and women in the ratings of the items related to music and apparatus (balls, and wands, etc.). This reinforces the original premise made at the outset of the project - that men can enjoy this approach to exercise as much as women.

The evaluation revealed a general satisfaction in the way the classes were conducted, a fact that is reflected in the good attendance figures and relatively low dropout rates.



V SPECIAL PROGRAMS

In order to service those employees with specific interests or needs, many special programs, workshops and alternatives to structured fitness classes were offered during the project. The following supplementary programs proved to be quite successful and added greatly to the overall positive attitude of the company toward the whole program.

Several contests were initiated during the six-month project as a motivational strategy to maintain interest in the fitness program. The following is a brief description of the three major incentive and award programs launched during the Canada Life Project.

1. *Motivational Contests*

Weight Loss Contest

This ongoing contest was launched in January 1978 at the onset of the program in conjunction with Nutrition Month. Weight loss recording sheets were kept in three-ring binders in each of the locker rooms next to the weigh scales. Participants were discouraged from weighing themselves more than once per week to avoid the confusion associated with daily fluctuation in fluid loss and gain. Everyone who participated received a promotional button boasting the slogan "I Lost...But I Gained" and the top weight losers at the end of each month received a small prize. The awards, carefully selected to encourage further participation in exercise and lower calorie rating, included such things as skipping ropes, pocket books on exercise, calorie counters, and mini pack-sacks. Approximately 150 fitness program participants were involved in this ongoing challenge.

March Madness Marathon

During the month of March, a point system was developed to encourage greater participation in different physical activities such as bicycling, tennis, etc. It was also aimed at encouraging greater use of the exercise room during open periods and use of stairs rather than elevators. Approximately 250 employees took part in this event. Promotional buttons were distributed to all contest entrants and specially designed "March Madness" T-shirts awarded to all those who achieved the required number of participation points during the month-long event. Employees were responsible for recording their own points on large wall charts. The effectiveness of this type of challenge was displayed by an increase in attendance at fitness classes during the month of March.

Cross-Canada Aerobics Adventure

Similar in nature to the March Madness Marathon, this four-week contest, held during late spring, was designed to encourage greater participation in outdoor activities with family and friends. This contest was held in collaboration with Family Fitness Month and the initiation of outdoor walking and jogging clubs.

By participating in the "Cross Canada" event, everyone attempted to travel the equivalent distance from Toronto to Victoria by either walking, jogging, cycling, swimming or a combination of all four activities. The Aerobics Adventure incorporated a point system whereby one kilometre of jogging, for example, was equivalent to 50 cross-Canada kilometres. Employees making it to Calgary received special T-shirts and those making it to Victoria become eligible for a grand prize draw. As with the March Madness contest, an increase in program attendance was observed during this event.

2. *Fitness Testing*

The research nature of the employee fitness project at Canada Life necessitated that fitness testing be done at three intervals during one year - twice before the fitness program and once at the end of the six-month program of classes. Any individuals who wanted to join the fitness program late and were not part of the research group were given the option of having the tests by appointment on a 'first come first served' basis.

The 500 research subjects who were registered in fitness classes were given the battery of fitness tests as per the Standardized Test of Fitness (see Appendix K page 67). There was little time commitment required on the part of the two fitness coordinators, since the testing team from the University of Toronto handled all aspects from scheduling of appointments to interpretation of results. This was possible only because of the research grant, and was obviously an "ideal" situation that may be difficult and expensive for the average company to duplicate.

Within an employee fitness program, the fitness appraisal can be used for various purposes. As diagnostic tools, some "stress" tests can be used to determine the level of known disease, to confirm suspected disease or rule out a disease status. This type of testing would be done by the company physician.

A battery of fitness tests can also play an educational role, since the main components of fitness and how they can be improved are learned during the appraisal. Certain tests allow exercise prescriptions to be determined on the basis of performance, thereby serving a functional role. Coupled with an activity program and subsequent retesting, the fitness appraisal can be an important motivational tool for increasing activity levels or serving as reinforcement for continuing present programs.

Administration of a testing program can be handled in a variety of ways. If the number of subjects is large, it may be feasible to hire professional examiners/consultants from outside agencies at peak times in the program. During this type of "blitz" approach, reliable information and exact measurements are assured. A circuit-style setup is the most convenient, but requires from four to 10 persons as testers and counsellors.

For established employee fitness programs, it may be easier and less expensive to offer fitness testing on a demand basis throughout the year. The occupational health nurse, fitness coordinator or other qualified personnel in the company can administer the tests by appointment on given days.

The entire test battery requires up to one hour, including interpretation of results plus counselling. Often the follow-up counselling is far more meaningful and motivational than the test results themselves. If a fitness coordinator in a large company attempts to do all the testing alone, it would be difficult for him/her to have the time available to run a top quality fitness program as well. Thus, it may be advisable in certain situations to use the occupational health personnel to assist, or to cut down on the number of test items in the battery to shorten the time required for the test. It should be kept in mind that fitness testing is only one component of a complete employee fitness program, and should be used to facilitate and encourage physical activity rather than act as a barrier or a substitute.

3. *Fitness Counselling*

From the onset of the demonstration project in January, individual counselling was made available to all Canada Life employees. Approximately 70 people, including both program and non-program participants, took advantage of this personalized service. Individual exercise

prescriptions were based on personal needs and interests. Many employees seeking an individual program were, however, channeled to the group classes as it has been demonstrated that motivation to adhere to a home exercise regime on a regular basis is low for most individuals.

The 12 top company executives were identified and offered special personalized fitness counselling sessions. Nine of the executives took advantage of this opportunity, and received exercise prescriptions and advice geared to their particular job and lifestyle. Since the executive group in most companies consists of persons with high stress jobs and limited free time, it is suggested that this group receive some special attention with respect to fitness tests and personal exercise prescriptions. At Canada Life, a few of the senior personnel were able to join the group program, while several others preferred to slip into the exercise room on their own at odd times of day whenever they could spare the time.

Free periods were scheduled in the exercise room infrequently, due to a lack of available time. Because of the large number of employees interested in group classes, most peak times were taken up with organized fitness classes. On the whole, the free gym periods, which were supervised by the program coordinators, were not well used. Most people found the classes much more enjoyable in comparison to jogging around the gym, riding a stationary bicycle, and exercising alone.

4. "Healthy Back" Program

This program was undertaken in an effort to assist those persons who were not yet able to participate in the regular fitness classes due to muscular problems causing back pain. As well, any other employees professing an interest in learning how to overcome or prevent back pain were eligible for the program.

The Y.M.C.A. program entitled "Y's Way to A Healthy Back" was used, since the fitness program director was a certified instructor and thus was able to teach both classes herself.

Due to the preventive and remedial benefits to participants, employees were allowed to attend the classes on company time. However, all potential participants were put through a series of special tests to determine if they could in fact benefit from the program.

This special six-week program was designed several years ago by medical specialists, and incorporates relaxation exercises and movements which help to increase the strength and flexibility of key postural muscles. The program was received very enthusiastically at Canada Life, and a second series of classes was organized to meet the demand.

This type of program offered on company time is very popular in Europe, since it has been shown to decrease the potential workdays lost by employees due to low back pain and fatigue. It appears to be well worth it, from the Canada Life experience, to grant employees time off for the twelve, 45-minute sessions. Companies wishing to institute this program have the option of contracting a Y.M.C.A. staff person to teach the classes or sending an occupational health nurse or other suitable person to attend the certification course for leaders.

5. Special Classes

"Over 45" Women's Class

A low-level exercise class was held two noon hours a week for women in this age category. It was felt that without a special program geared for older employees many of

them would not involve themselves in the project. The class proved popular by filling to capacity. It is interesting to note that this group boasted the highest adherence rate over the six-month period. It may be that adults in this age group more fully appreciate the benefits of physical activity, or perhaps the simple fact that it was easily accessible convinced them to try.

Workshop on Prevention and Treatment of Athletic Injuries

With a progressive increase in class intensity and a rise in the number of outdoor, long-distance joggers, this workshop was held in order to teach participants how to prevent unnecessary athletic injuries. Good quality running shoes were displayed and analyzed, and isometric strengthening exercises demonstrated. Over 100 employees attended this workshop and there were many requests for similar follow-up sessions.

Disco Dancing Course

An introduction to disco dancing was offered to all Canada Life employees at the beginning of June in the staff lounge. The idea behind setting up such a course was to introduce employees to a pleasurable form of activity which could be used to complement their exercise classes. Approximately 75 employees signed up, but due to lack of space, half of these people were placed on a waiting list.

Many people dropped out after the first half of the two-week course. It was felt that this was largely due to the complexity of the dances taught by the instructor, since many could not keep up with the fast pace of instruction. Others felt that such elaborate dances could not be executed on a crowded dance floor and ceased attending classes. Based on registration figures it is obvious that disco classes can be very popular; however, at the introductory level, steps must be kept very simple so that everyone can follow.

Joggers' Club

An outdoor joggers' club was initiated in conjunction with Family Fitness Month and the Aerobic Express contest. People were encouraged to accumulate "express" points by jogging early morning, noon hours and after work in a nearby park. At certain peak times during the day, jogging groups were led by the volunteer instructors-in-training at Canada Life. The primary role of the volunteers was to ensure that all joggers warmed up and cooled down adequately, as well as to provide ongoing encouragement.

Initially, many people showed up for these sessions but numbers dwindled as the hot weather set in, and many decided they preferred the group classes indoors. Several employees, however, were noticed going out on their own in small groups on a regular basis during the spring and summer months.

Walking Club

An informal walking club was also initiated in collaboration with Family Fitness Month and Aerobic Express Contest. Maps of the area outlining good walking routes were made available, but few employees took advantage of this. Many factors could explain the failure of such a venture. To begin with, the benefits of walking were inadequately promoted. Perhaps if an article on walking and weight control had been published in the company newspaper, more people would have been attracted to the activity. In addition to the above, formal walking groups were not organized. It was also felt that advertising for the club was directed primarily at employees already involved in group classes rather than those not participating in the fitness program. This type of program should be introduced as a lead-up to participation in classes, or as a "beginners" level activity.

6. *Nutrition and Diet Counselling*

Even though a formal program for overweight employees was not established, many people were counselled in the area of nutrition and weight control on a one-to-one basis. In addition, most literature distributed through the fitness office dealt with this topic. It is felt very strongly that an organized program for overweight employees would be a most valuable adjunct to any employee fitness and lifestyle program. The adherence rate of severely overweight employees integrated into regular programs is very low.

Obese individuals are very self-conscious about their physical appearance and this feeling is accentuated when they are forced into gym clothing. Overweight people cannot progress at the same level as normal weight individuals and they soon become discouraged with their slower progress.

A lack of time prevented the fitness coordinators from designing and implementing such a program at the Canada Life Assurance Company, but it ranks high on the list of recommended "special" programs. This is one program that could easily be handled by an occupational health nurse, using the fitness personnel for the exercise class portion.



VI VOLUNTEER INSTRUCTOR TRAINING PROGRAM

1. *Program Overview*

In order to prepare for the takeover of program operation and supervision by the Canada Life Assurance Company in September of 1978, potential volunteer fitness instructors were recruited during early spring.

A special bulletin was circulated to all Canada Life employees in the hope of attracting enthusiastic, dedicated employees from the exercise program to the training event. Previous experience in a teaching capacity was not a prerequisite for participation in the leadership course. In a few cases, individual employees were singled out and asked to consider the course. The people approached were those who had displayed an exceptional interest in all facets of the fitness and lifestyle program from the initial stages of development and implementation, and who had certain leadership qualities. Twenty-four registered for the training event. It was felt that an initial screening process should not take place and that all registrants should be allowed to take part in the preliminary training course.

The volunteer program encompassed both the theoretical and practical aspects of fitness leadership, with training being divided into two phases. Phase I concentrated on the basic theoretical and practical knowledge necessary to plan and implement a physiologically sound exercise class. The volunteer group met once a week after work for four consecutive weeks. Each session lasted two and one-half hours and time was split equally between theory and practical work. Whenever possible, the practical sessions reinforced what had been discussed in the preceding lecture.

Phase II of training consisted of a weekend workshop at the Geneva Park Conference Centre near Orillia, Ontario. This special workshop was planned by the two fitness coordinators, and special resource persons were invited to assist during the two days.

The major motive behind scheduling an out-of-town weekend workshop was to try and generate a feeling of camaraderie among the potential instructors and to have a chance to get to know everyone better through a social, as well as an academic, setting. It was anticipated that the future success of the Canada Life Fitness Program would be enhanced through the development of a team spirit among the volunteers.

It was indicated by all volunteer leader candidates that the workshop was the highlight of the training event and that the objectives mentioned above were met. At the end of the weekend workshop the instructors-in-training unanimously agreed that they would like to continue throughout the spring and early summer with informal training sessions that would serve to keep the closely-knit group together.

2. *Outline of Lecture and Practical Sessions*

Introduction to Physical Fitness: Through use of a slide presentation, this session examined the evolution of physical fitness to present day attitudes and trends, the effects of technological advance, employee fitness, physical activity in the school system and the role of exercise in the prevention and rehabilitation of coronary heart disease.

Components of a Warm-Up and Cool-Down: The theory behind the importance of a proper warm-up and cool-down was discussed. This topic, covered in the gymnasium, included a demonstration of various circulatory warm-up and stretching routines. Relaxation techniques were also discussed and demonstrated.

Exercise Physiology: This subject area was divided into two separate sessions. The first section dealt with the anatomy of the heart and lungs. The circulatory system was discussed primarily in relationship to changes during exercise. The second seminar included a discussion on energy metabolism, the various energy processes (i.e. aerobic vs. anaerobic) and the concept of oxygen debt. The effects of physical conditioning were outlined and the principles of overload, specificity, intensity, duration and frequency applied to aerobic conditioning.

Muscular Endurance and Flexibility Routines: These two components of fitness were analyzed primarily through practical demonstrations. The principles of intensity, duration and progression were incorporated into the session.

How to Put a Class Together: This combined lecture-gym session focused on the elements of timing, body positioning, repetition, progression and music in putting together a smooth-flowing fitness class.

Aerobic Routines: In this practical session, alternatives to straight jogging as a cardiovascular conditioner were introduced. Stationary jogging and skipping routines, dance steps and jogging formations were practised. The principles of intensity, duration and progression were discussed in relationship to aerobic work for beginner, intermediate and advanced classes.

Introduction to Music: This practical session was an introduction to rhythm, for most participants. Music of varying tempos, suited to specific movements such as walking, skipping, jogging and calisthenics, was introduced.

Exercise Precautions: In this theoretical session the following exercise precautions were presented and discussed: straight, double-leg-raising from the supine position; straight leg sit-up; breath-holding; exercises involving a hyperextension of the lower back; ballistic stretching; isometric exercises; full knee bends.

Exercise and the Lower Back: This practically-oriented session dealt with the causes, prevention and rehabilitation of low back pain resulting from weakness and poor flexibility of key postural muscles. The Kraus-Weber test was demonstrated and discussed as a possible tool for detecting specific muscular deficiencies. Basic remedial exercises were demonstrated and practised.

Introduction to Nutrition: This session involved a discussion of the Canada Food Guide. Prior to this lecture, participants were asked to record their food consumption over a period of three consecutive days (including at least one weekend day) and part of the lecture was spent on group dietary analysis. Various weight loss techniques and the role of exercise in weight control were discussed.

Diet and Exercise Fallacies: The following popular fallacies were discussed during this theoretical session: spot reduction, use of saunas, steam baths and rubber suits in weight loss attempts, exercise and appetite control.

Psychology of Fitness Leadership: Instructor/participant relationships, motivational techniques and the role of the volunteer instructor versus the professional full-time fitness coordinator in an employee fitness program were discussed.

Novelty Exercise Routines: A demonstration of exercises utilizing rhythm balls, skipping ropes, sticks, partners and the wall was given. This session was intended as an introduction to the use of variety and fun techniques in fitness instruction.

Circuit Training: In this practical session, different types of circuits were practised and discussed in light of their conditioning value and variety.

For the final gym session, each instructor-in-training was given a five-minute routine to prepare ahead of time, and conducted it using the training group as participants. A brief evaluation followed each routine. This was the first opportunity the instructors had to practice-teach.

3. In-Service Training and Certification

During the final phase of training, the volunteer instructors spent most of their efforts in practice teaching under the guidance of the part-time professional instructors and two fitness coordinators. Initially, the trainees simply taught small sections of the class. As their confidence and expertise developed, larger sections of each class were taught by the instructors-in-training. Each volunteer was given a sample music tape to work with during the six-week practice teaching period.

Just prior to the completion of the formal training in June 1978, each instructor underwent a comprehensive evaluation of his/her leadership performance.

Since the Coordinator of the Canada Life fitness program was a certified supervisor of the National YMCA fitness instructor training program, all volunteers displaying competency in both the theoretical and practical aspects of fitness leadership were certified with the National YMCA as fitness instructors. This was done primarily because the Canada Life Project was conducted under the auspices of the Toronto YMCA. For a company introducing its own leadership program, it is suggested that some formal recognition, on behalf of the company, be given to volunteer instructors completing a training program. This could be in the form of special certificates, or special T-shirts plus a congratulatory letter from the President.

All of the volunteer instructors who completed the entire training program were successful in obtaining certification. They continued throughout July and August 1978 with weekly training sessions and practice teaching, and as of September 1978, all those still with the company were given shared responsibility for leading fitness classes. As of January 1979, a full six months since the project terminated, the class leadership at Canada Life was about 90% dependent on the volunteers.

With professional ongoing supervision of all the volunteer instructors by the fitness coordinator, the quality of the program has remained high. The registration and attendance figures are comparable to those during the six months of the project as well. This indicates that it is indeed feasible to run a top quality employee fitness program that is largely dependent upon well-trained, in-house leadership. It is imperative, however, that the instructors receive constant monitoring and assistance from a professional fitness director.

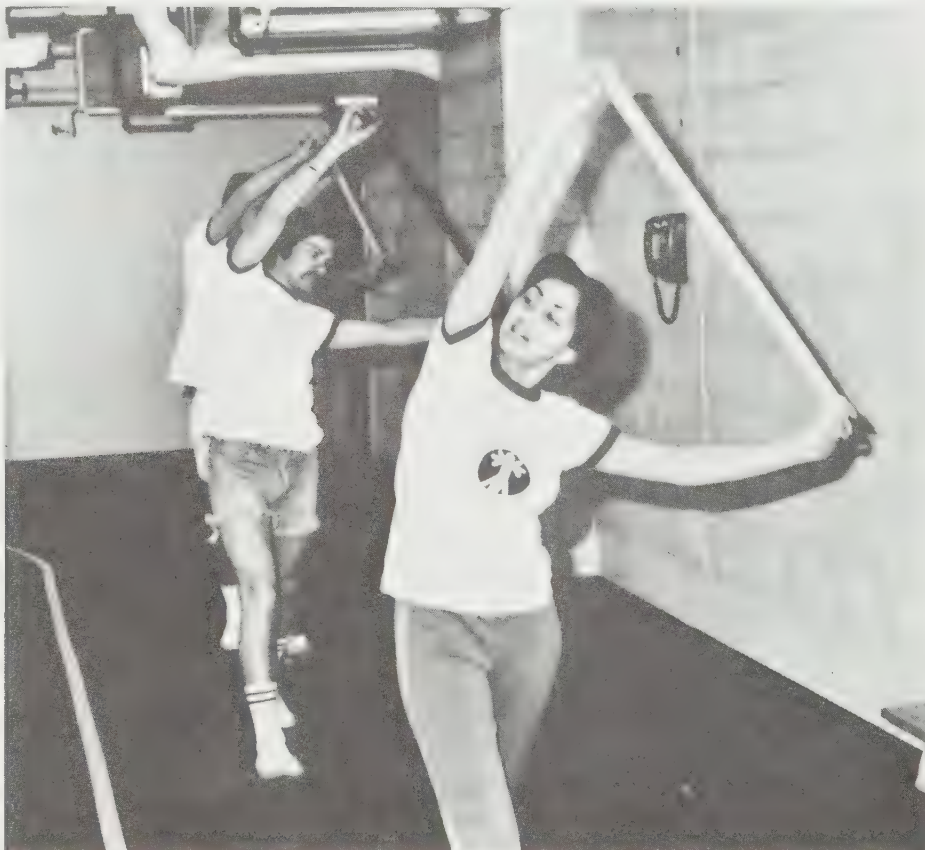
VII SUMMARY

Testimony to the success of the Toronto Employee Fitness and Lifestyle Study are the positive research results (such as improved fitness levels and less absenteeism) on the one hand, and the continuation of the program itself at Canada Life. Further, the control company, North American Life, has developed an employee fitness program based upon the study experience. It should be noted that the participation rate at the Canada Life Assurance Company nine months after the termination of the project is consistently at the same high level as during the study, with leadership by one Fitness Coordinator and a corps of volunteer instructors.

It is hoped that the material and methodology included in this report will be beneficial to other companies in implementing their own employee fitness program:

- * the description of the successful volunteer recruitment and training program;
- * the integration of a health-related lifestyle component into the physical fitness program;
- * the availability of specially created brochures and pamphlets;
- * the elaboration of techniques to introduce variety into the program through the use of music in the group exercise classes, special events, and theme weeks.

The most difficult task in any project of this type is to translate the proposed plans and procedures into a workable format, and to stimulate the enthusiasm critical to its long-term success. Given that the successful operation of the project was a shared venture on the part of the principal agencies, special acknowledgement should be accorded to the Fitness Coordinators for their efforts. The Fitness and Amateur Sport Branch also wishes to thank the Y.M.C.A., and the employees of Canada Life who were enthusiastic supporters of all phases of the research and program.



APPENDIX A

PROGRAM ACTIVITY OUTLINE - EMPLOYEE FITNESS AND LIFESTYLE PROJECT

-Prepared August 1977, Fitness and Amateur Sport Branch

A. Pre-program

1. Advisory Committee - set up committee with representatives from the various factions within the company population
-arrange monthly meetings, for information flow and feedback.
2. Promotion Campaign - extensive pre-program campaign of special lectures, films and meetings on lifestyle topics related to fitness and health.
-develop posters and notices for elevators, hallways, cafeteria, etc.
with catchy reminders about fitness.
3. Exercise Breaks - Plan a series of daily Exercise Breaks, a different series for each week.
-select and train 1 volunteer from each floor area as a leader; conduct monthly meetings for leaders to introduce new music and routines
-supervise ongoing exercise break program by regular monitoring.
4. Newsletter - develop a fitness program newsletter for promotion and information purposes.
-write program updates, series of mini-articles, reproduce cartoons, introduce contests, etc.

B. Group Exercise Program

1. Regular Fitness Classes - develop and schedule ongoing fitness classes for men only, women only, and coed classes.
-all classes to be done to music, with professional instructors to be hired for their particular expertise in motivational classes to music.
2. Variety In Program - introduce extensive use of variety in the format of classes, using rhythm balls, skipping ropes, wall bars, benches, partner exercises, varied formations, as well as a variety of locomotor and dance movements rather than always jogging.
3. Music Tapes - prepare an extensive series of 30-minute tapes of music, for use by any outside instructors wishing to do so, and for use by the volunteer instructors in their training, and carrying on the program after the research project is over.
4. Special Classes - develop a program of classes aimed at groups with special needs, such as overweight persons, and low back pain-sufferers, etc.
-wherever possible, organize special-interest classes such as jazz dance, rhythmic gymnastics, folk-dancing, relaxation, aqua fitness, etc.

C. Information And Motivation Campaign

1. Bulletin Boards - in exercise room, plus major traffic areas such as cafeteria
-advertise events, news, photos from classes, information about recreation events such as hikes, ski clubs, orienteering, etc.
2. Weekly Series Of Films, Speakers, Demonstrations - organize well-advertised special-interest meetings on health-related topics: weight control, fad diets, nutrition, heart disease, stress reduction, grooming, fitness during pregnancy, cardiac rehabilitation, consumer awareness, anti-smoking programs, leisure time philosophy, etc.
-some special demonstrations such as Tai-Chi, or Yoga, etc.
3. Monthly Themes - eg. heart month, nutrition month, stress, 'try - something - new' month, etc.
-reflect monthly themes in both newsletter and bulletin boards.
4. Educational Literature - handed out during fitness classes, or from Fitness Office: available to non-participants as well.
-related to a variety of topics on fitness, health and lifestyle
-develop series of handouts; for example, exercises to do while travelling; exercises for the office, or to do in the bathtub, etc.
5. Special Events - organize friendly challenges and competitions, occasional weekend outings, etc.
6. Individual Counselling Service - set aside office hours for individual employees who wish information or counselling related to fitness or health, by appointment.
-provide counselling and exercise prescription for employees who cannot join classes, or who have a special problem such as a sports injury, a handicap, arthritis, a cardiac problem etc., with a referral from the company medical personnel.
7. Cafeteria Program - encourage wise food choices through sale of rye bread, salads, etc.
-post calorie content of foods regularly, to create awareness of calorie balance.
8. Promotional Gimmicks - develop simple internal 'award' systems, incentives, such as buttons for participation, recognition of number of miles jogged, 'best attendance' award, most weight lost per month, etc.
-hold special raffles for items such as running shoes, sweatsuits, sports equipment, etc. donated by sports stores.

D. Leadership Development

1. Selecting Candidates - choose likely candidates from among fitness class participants.

2. Training Program - create a 'spirit' among the potential leaders, by planning special sessions every two weeks or so.
- organize and conduct a two-day leadership training clinic in a suitable setting (conducive to learning about fitness)
 - cover all necessary theoretical and practical topics, for preparation of volunteers as fitness leaders
 - encourage involvement of volunteer leaders in the development of plans for an ongoing fitness program after the research project is terminated.



APPENDIX B

EMPLOYEE FITNESS AND LIFESTYLE PROJECT - TORONTO, 1977-78

The following persons were involved in various phases of the planning, administration and/or implementation of the Employee Fitness and Lifestyle Awareness Program:

CANADA LIFE ASSURANCE COMPANY - TORONTO

Mr. Ian Fraser, Vice-President, Administration and Secretary.
Mr. John Smalley, Director of Personnel.
Dr. Chris West, Medical Vice-President.
Dr. Dickson Cormack, Assistant Medical Director.
Mr. John Cartnell, Group Insurance Executive.
Mr. Marvin Miziolek, Agency Vice-President, Canada.
Mr. Al Kemp, Administrator of Office Services (responsibility-exercise facility construction)
Mr. Barry Patton, Personnel Officer (Company liaison to Fitness Program)

Y.M.C.A. OF METROPOLITAN TORONTO

Mr. Bill Norman, Executive Vice-President - Operations.
Mr. Marty Snelling, Director of Physical Education, Central Y.M.C.A. (Program liaison, Aug. 1977 - Jan. 1978).
Mr. George Rodger, Regional Director, North York Y.M.C.A. (Program liaison, Feb. - Sept. 1978)
Ms. Veronica Marsden, Fitness Coordinator, Head of Y.M.C.A. Fitness Office at Canada Life
Mr. Paul Youldon, Fitness Coordinator, Fitness Office at Canada Life.
Ms. Lucy Bruin, Secretary, Fitness Office at Canada Life.

Part-time Fitness Instructors - At Canada Life (Jan - June, 1978)

Ms. Esta Palter
Mr. John Henderson
Ms. Brenda Saunders
Ms. Grace Lawrence
Ms. Wendy Chittley
Ms. Karen Hay
Ms. Susan Stevenson
Ms. Elizabeth Thorsen

UNIVERSITY OF TORONTO

Dr. Roy Shephard, Professor, Department of Preventive Medicine and Biostatistics
(Principal Investigator, Research Phase)

Mr. Michael Cox, Research Associate, Department of Preventive Medicine and
Biostatistics (Research liaison to Program Phase)

FITNESS AND AMATEUR SPORT BRANCH
DEPARTMENT OF NATIONAL HEALTH AND WELFARE

Mr. Sandy Keir, Head, Fitness Methodology (Chairman of overall project committee)

Ms. Mall Peepre, Fitness Consultant (Program liaison, Aug. 1977 - Sept. 1978).



APPENDIX C

HEALTH HAZARD APPRAISAL (H.H.A.)

The Health Hazard Appraisal process is threefold:

1. Completion of H.H.A. Questionnaire

This is a 40-question inventory of the four classes of information: lifestyle factors; physical status; family history; screening history.

2. Processing of the H.H.A. Information

This service is provided free of charge by the Department of National Health and Welfare.

3. Counselling Session

The H.H.A. computer printout provides an assessment of the client's survival potential for the next ten years by comparing him or her to the average Canadian of the same age and sex. For the persons appraised at high and moderate risk, the printout suggests a personal program for risk reduction. The persons appraised at low risk are encouraged to keep up the good work. The printout also serves as an agenda for counselling for the health professional.

It should be noted that the H.H.A. process is considered to be incomplete unless it includes a personal counselling session that assures maximum understanding of the H.H.A. results and minimizes the possibility of any misunderstanding that might lead a client to be unduly anxious about his/her results.

For more information about Health Hazard Appraisal, please write to the following address giving a brief description of the setting in which you wish to use Health Hazard Appraisal.

Health Hazard Appraisal,
Promotion and Prevention Directorate,
Health and Welfare Canada,
365 Laurier Avenue West,
Ottawa, Ontario.
K1A 1B6

FILMS AND SLIDE SHOWS

'Feeling Great'

- produced for Fitness and Amateur Sport by National Film Board of Canada
- available free of charge via local Public Libraries

'Run Dick, Run Jane'

- featuring Dr. Ken Cooper
- produced by Brigham Young University
- available via local Public Libraries

'Diet for Life'

- produced by Dr. Colleen Dunkley, Faculty of Food Sciences, University of Toronto
- rental fee: \$20.00
- available from Nutrition Link, P.O. Box 504, Port Credit Postal Station, Mississauga, Ontario.

'Vegetarianism'

- produced by Dr. Colleen Dunkley, Faculty of Food Sciences, University of Toronto
- rental fee: \$20.00

'Heart Attack - Counter Attack'

- featuring Dr. Terry Kavanagh, Toronto Rehabilitation Centre
- produced by Love 5 Ltd., 124 Baby Point Rd., Toronto
- rental fee: \$40.00
- (Ontario residents: available free from Ministry of Culture & Recreation, 9th Floor, 77 Bloor St. West, Toronto.)

'I am Joe's Heart'

- produced by Nicholson-Muir and distributed by International Telefilm
- available via local Public Libraries

'Alcohol: Drug of choice'

- produced by Searle Pharmaceuticals in conjunction with Project Health
- no rental service to date

'Ashes to Ashes'

- produced by Searle Pharmaceuticals in conjunction with Project Health
- not available for rent to date

'I am Joe's Spine'

- produced by Nicholson-Muir and distributed by International Telefilm
- available via local Public Libraries

APPENDIX E

**BIBLIOGRAPHY OF HEALTH EDUCATION MATERIALS
USED JAN-JUNE, 1978**

TITLE	AVAILABLE FROM:	COST
(1) Walking and Hiking	Sun Life Assurance Company of Canada Corporate Relations Department P.O. Box 6075 Montreal, P.Q. H3C 3G5	free
(2) Cycling	Sun Life Assurance Company of Canada (see above)	free
(3) Calorie Counter	Fitness Finders Incorporated Spring Arbor, Michigan 49283 U.S.A.	Price dependent upon quantity ordered
(4) Food and Fitness	Ontario Blue Cross 150 Ferrand Drive Don Mills, Ontario M3C 1H6	Limited quantities available free of cost or 25¢ each
(5) Canada's Food Guide	Any provincial health department	free
(6) Your Lifestyle Profile	Operation Lifestyle Information Directorate Health and Welfare Canada Ottawa, Ontario K1A 0K9	free
(7) Ways To Improve Your Lifestyle	Operation Lifestyle (see above)	free
(8) Hypertension and Questions People Ask About High Blood Pressure	Operation Lifestyle (see above)	free
(9) Health and Fitness	Fitness and Amateur Sport Branch 11th Floor Journal Tower South 365 Laurier Ave. West, Ottawa	free
(10) How Fit Is Your Foodstyle	Fitness Ontario Ministry of Culture and Recreation Sports and Fitness Division 77 Bloor St., West Toronto	free

(11)	A Guide To Personal Fitness	Fitness Ontario (see above)	free
(12)	What Every Woman Should Know About High Blood Pressure	Ontario Heart Foundation 310 Davenport Road Toronto, Ontario M5R 3K2	free
(13)	Diet and Coronary Heart Disease	Ontario Heart Foundation	free
(14)	What Everyone Should Know About Smoking & Heart Disease	Ontario Heart Foundation	free
(15)	How To Stop Smoking	Ontario Heart Foundation	free
(16)	Family Fitness by Fleischmann's	Standard Brands Canada Ltd. 1408 Birchmount Road Scarborough, Ontario M1P 2E3	15¢ each
(17)	Your Heart and How to Live with it	Standard Brands Canada Limited	40¢ each
(18)	Dietary Control of Cholesterol	Standard Brands Canada Limited	40¢ each
(19)	Cholesterol, Calorie & Sodium Computer	Standard Brands Canada Limited	25¢ each
(20)	Alcohol-do you know enough about it?	Addiction Research Foundation of Ontario 33 Russell St. Toronto, Ontario M5S 2S1	free
(21)	Coffee, Tea and Me	Addiction Research Foundation	free
(22)	Exercise: Your Heart Depends on it.	Nutrition Information Service Best Foods Division The Canada Starch Co. Ltd. Box 129 Station "A" Montreal, Quebec H3C 1C5	50¢ each
(23)	Seafood Recipes for Calorie Counters	Ministry of Energy, Mines and Resources Consumer Services Division Fisheries and Marine Service Environment Canada Ottawa, Ontario K1A 0H3	free



CANADA LIFE'S FITNESS AND LIFESTYLE PROGRAM

NEWSLETTER

I AM PETER'S HAMSTRINGS

I am the large muscle in the back of the thigh. I start in the rear of the pelvic bone and insert into the upper surface of the lower leg bones.

I am constructed of millions of tiny muscle fibers that slide back and forth across one another. This enables me to shorten or lengthen.

My job is to flex the lower leg. When Peter Pelican sits at his desk all day, I shorten up due to the flexed angle of the knee. I am controlled by a fine network of nerves and blood vessels. When subjected to sudden rapid contractions without proper warm-up, I will tear, and Peter will feel a sharp pain.

There are several ways I can increase my temperature.

- (1) by a series of local contractions (knee flexion)
- (2) total body activity (walking, cycling, skiing etc) and
- (3) by elevated environmental temperature.

On cold days, it takes me longer to increase my temperature, whereas in the summer months, several minutes of light activity will heat me up.

When I am warm and ready for exercise, I notify Peter by perspiring in an effort to lose excess heat. Peter then knows he can go ahead and use me in his fitness program.

I function much more efficiently under warm conditions. For example, — there is less friction between my multitude of fibers, which enables me to both contract and relax to a greater extent.
 — I accept oxygen more rapidly from my blood supply,
 — metabolism of energy stores increase and there is a dilation of blood vessels to enhance circulation.
 — I stretch and lengthen to a greater extent under warm conditions. I don't like bouncing, jerking and ballistic movements. Whenever my ends are pulled quickly as in the case of *ballistic* movements, I forcefully contract. Thus I don't lengthen, but shorten.

I will stretch and lengthen when I am held in a comfortable and static position. Any sudden movements which cause an excess range of motions, will tear several of my fibers, and minor swelling will result which puts pressure on sensitive nerve endings.

Static stretching allows me to relax and become accustomed to the position so that I ultimately lengthen.

These are a few of my favourite warm-up exercises.

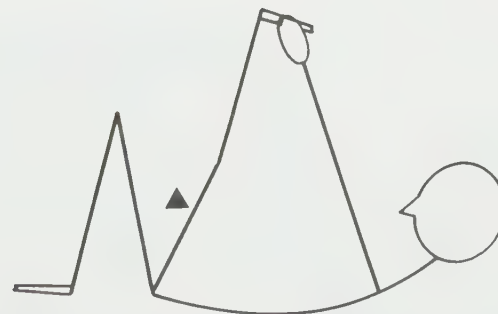
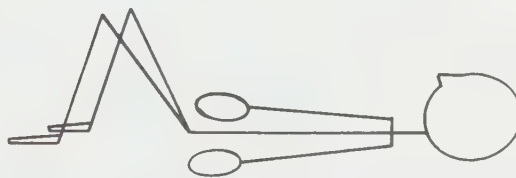
(1) Double leg Hamstring Stretch.

Sit down on the buttocks — legs straight out front, with knees locked. Slide your hands down your legs slowly until you feel a comfortable stretch in the hamstrings. Grasp the legs at that point and hold for at least 10 seconds. Relax and repeat 3 times.

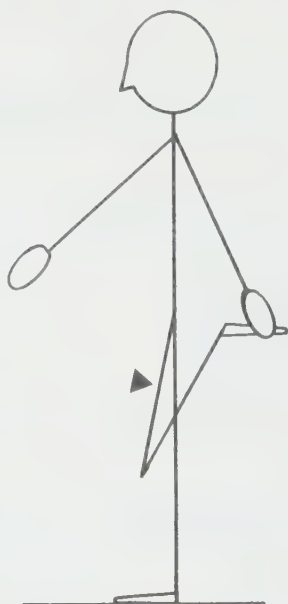


(2) Single leg, supine, stretch.

- (a) Lie on your back — knees bent, feet flat on the floor.
- (b) Raise the right leg, grasp the toe with the hands in line, and attempt to straighten the leg. Do not force it. Achieve a comfortable pull and hold for at least 10 seconds. Relax and use alternate legs. Repeat 3 times on each side.

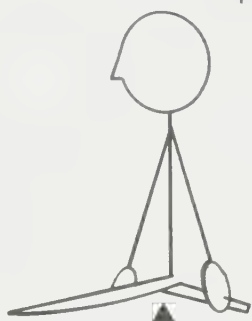


Here are some recommended exercises for Peter's neighbours.



Frontal Thighs (Quadriceps):

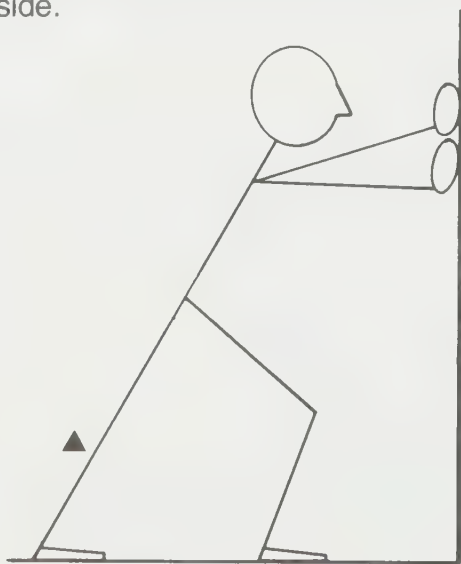
Grasp the foot. Pull the heel up into the buttock. Keep the knees together, and the back straight. Hold for at least 10 seconds. Relax and repeat 3 times on each side.



Frontal Legs (Tibialis Anterior)

Sit down slowly on the heels.

The front of the feet should be touching the floor. Hold for at least 10 seconds. Relax and repeat 3 times on each side.



Posterior Legs (Calves):

Lean against a wall with the arms extended. One leg stretched out at an angle to the wall. slowly apply the stretch to the calf muscles and achilles tendon by allowing the elbows to bend, and lean into the wall. Hold for at least 10 seconds. Relax and alternate legs.

After a good solid warm-up which elevates total body temperature, and proper static stretching, then and only then I am ready for action.

After all, I should know, because I am Peter's Hamstrings.

EXERCISE ETIQUETTE OR THE CANADA LIFE COMMANDMENTS

1. Thou shalt not covet thy neighbour's strength, flexibility, co-ordination, endurance or physique but concentrate on thine own capabilities and weaknesses. Thou shalt not compete with thy neighbour.
2. Thou shalt not steal thy neighbour's adidas, leotards, shorts, soap or the golf cover tubes in the gymnasium.
3. Thou shalt not subject thy neighbour to a foul exercising environment by failing to launder thy gym clothing on a regular basis.
4. Thou shalt honour thy neighbour's right to a clean working environment by showering thine body after exercise. Powder hath not the same cleansing action.
5. Thou shalt honour thy fitness instructor by marking thy attendance after every class.
6. Thou shalt honour thy fleet-footed brethren by pursuing a slower jogging pace on the inside of the track.
7. Thou shalt keep sacred thine exercise periods and not be led astray by sedentary temptation.
8. Thou shalt not abuse thy exercise equipment.
9. Thou shalt respect thy joints, muscles, ligaments, tendons, veins and arteries by warming up before exercise.
10. Thou shalt go forth and spread the gospel of the benefits of exercise and maintenance of good health.

Bits and Pieces

Lost — 1 gold chain with charm in rooms J and K the week of January 16th.

— 1 ladies gold watch in the gymnasium, Thursday, February 9th.

If anyone has any information on the whereabouts of these items, please contact the Fitness Office.

Special Workshop on the utilization of all equipment recently installed in the gym.

Day — Tuesday, March 7th.

Times — 4:15 and 4:45 P.M.

Place — gym S-02

BULLETIN



CANADA LIFE FITNESS AND LIFESTYLE PROGRAM *

March Madness has Arrived!

March What?

March is Motion Mania Month!

The focus is on movement. The more you move the more points you earn.

Points will be awarded for participation in the following activities in the March Madness Motion contest:

Walking, Jogging, Swimming, Cycling, Skipping, Calisthenics, Skiing, Snow-Shoeing, Fitness Classes, Dancing, All Racquet Sports, Basketball, Volleyball, etc.

10 minutes of activity = 1 point

20 minutes of activity = 2 points

30 minutes of activity = 3 points

Bonus! One Canada Life
Staircase = 1 point

Keep track of your daily total on the chart outside the gym and add your points up as you go along.

Try to walk, jog or skip your way to a weekly total of 15 points.

Good luck!

P.S. Put some points on the board for the champ: your heart! Catch the Fitness Fever, start moving today!

* Sample bulletin, March 1978

SQUARE MEAL/ SQUARE DEAL *

The Square Meal/Square Deal campaign allows you to select nutritious foods from four food groups.

Food choices should be appropriate in terms of calories as well as nutrients. To determine proper selection of food calories consider the following factors:

- (1) The daily energy expenditure, ie. level of physical activity, body size and sex.
- (2) The need to adjust weight to attain ideal body weight.

If you are above your ideal body weight, then the answer is simple, your energy consumption is greater than your energy expenditure (physical activity). To adjust your state of energy, you must reduce the caloric consumption and/or increase your level of physical activity.

The focus of this bulletin is to point out how to decrease the caloric value of the noon meal.

The secret behind watching your weight is watching the weight of your plate.

Portion control is the single most important factor in your attempt to reduce. Take the time to ask for and refuse the food offered to you. It is your right to choose which foods you wish to eat. Do not blindly accept what is placed upon your plate.

Upon tabulation of the cafeteria menu, a square meal (one serving from each colour) constitutes 450-550 calories.

The basal metabolic requirement (without physical activity) for a 128 lb. female is about 1500 calories.

As you can see, a square meal provides approximately 1/4 to 1/3 of the daily energy requirement of the average working female.

By the same token, a 170 lb. adult male who participates regularly in the fitness program may require 3000 calories per day to maintain his body weight.

Obviously there is a broad spectrum of energy requirements for all patrons of Pelican foods. It is the role of the cafeteria to meet the needs of the majority, in terms of taste, nutrition, selection and caloric value of the food menu.

If your objective is to decrease the caloric value of the noon meal, you must reduce the consumption of non-coloured food items. This includes hot sauces, gravy, margarine, assorted pies and pastries, salad dressing and french fried potatoes.

These foods offer excess calories without providing essential nutrients.

Pelican Calorie Counters:

1 pat of margarine.	40	calories
1 tbsp of gravy.	52	"
1 tbsp of French dressing.	100	"
1 serving of French Fries.	150	"
1 sweet danish.	250	"
1 coconut cream pie	400	"

Watch out! The Phact's are coming.

* Sample flyer from Nutrition Education Campaign.



APPENDIX I

"EXERCISE BREAK" IN BUSINESS OR INDUSTRIAL SETTING

Initiating the Break - Obtain management approval by proposing and conducting a pilot program. The key to success is the selection of an interested group of employees. An evaluation of the pilot experience by staff and management would determine its viability in various work settings, identify any scheduling problems, and assess the acceptability for the concept of active relaxation.

Organizing the Break - The training of Exercise Break leaders is the first hurdle. Initial leaders could be recruited from leaders of exercise classes (if these exist) or by following up the pilot program with a special leaders' workshop for employees willing to serve as break leaders. The ultimate success of course occurs when all participating staff members each assume responsibility for the Exercise Break on a rotating basis.

The occupational health nurses are often interested in assisting with the supervision of the Exercise Break program, since it gives them an opportunity to establish a rapport with employees as well as be involved actively in a "preventive" program.

Maintaining Interest - Variety is fundamental to maintaining interest. Different music, new exercises and many leaders are methods of providing variety. It has been demonstrated that when management personnel actively participate, the program has a much greater chance of success. Assistance to volunteer leaders is a welcome feature, especially when periodic noon hour workshops can be scheduled to teach and learn new breaks.

The "Exercise Break" Package - The cassette tape of music and instruction booklet with four, seven-minute exercise routines is available free of charge to companies and health professionals, from the following address:

Fitness and Amateur Sport Branch,
365 Laurier Avenue West, 11th Floor,
Ottawa, Ontario.
K1A 0X6

APPENDIX J

BREAKDOWN OF EXPENDITURES

Fitness Centre Construction - Paid for by Canada Life Assurance Company

The following is a list of approximate budget figures: (1977)

Paint Shop and Stockroom Partitions	\$ 2 000.00
General Construction	25 000.00
Plumbing, Mechanical and Electrical	45 140.00
Painting Exercise Area	500.00
Carpet and Installation	4 500.00
Contingency Allowance	5 000.00
Hair Dryers and Furnishings	2 000.00
Lockers	2 400.00
Shower Curtains, complete with stainless steel brackets, etc.	400.00
2 Medical type scales 2 @ \$165	330.00
Refrigerated drinking fountain	565.00
TOTAL	\$ 87 835.00

**Fitness Class Equipment - Paid by the contribution from
Fitness and Amateur Sport Branch
(approximate figures)**

2 Exercise bicycles	\$ 600.00
Dumbbells	200.00
30 Rhythm Balls	200.00
30 Skipping Ropes	40.00
Wall Bars	500.00
Sound System (tapedeck, 4 speakers, amplifier, turntable)	1 600.00
Miscellaneous	200.00
Tapes and Records	300.00
6 Benches	510.00
Plastic Wands	15.00
Wall Pulley	300.00
TOTAL	\$ 4 465.00

"STANDARDIZED TEST OF FITNESS"

This was developed by a committee of national experts in exercise physiology, under the auspices of the Fitness and Amateur Sport Branch of the Department of National Health and Welfare. It evolved from two of the recommendations of the National Conference on Fitness and Health held in Ottawa in December, 1972: to establish a simple field test of fitness; to standardize cardiovascular performance tests.

The tests and measurements of the Standardized Test of Fitness consist of the following:

1. Anthropometry: Standing height; weight; girth measurements - chest, abdomen, gluteal, thigh; skinfold measures - triceps, biceps, subscapular, supra-iliac; prediction of % body fat.
2. Strength and muscular endurance: Grip strength - right and left hand; 60-second sit-ups; push-ups.
3. Flexibility: trunk forward flexion.
4. Cardiorespiratory Fitness: Canadian Home Fitness Test (Advanced version, for prediction of Maximal Oxygen Uptake).

An important feature of the Canadian Home Fitness Test is the Physical Activity Readiness Questionnaire (PAR-Q).

This self-administered questionnaire has been designed to identify the small number of adults for whom physical activity might be inappropriate or those who should have medical advice concerning the type of activity most suitable for them.

It can also be used separately as a screening device for a variety of physical activity programs, when no testing procedure is available or feasible.

The equipment required to implement the Standardized Test of Fitness is as follows:

	<u>Approximate Costs-1979</u>
Harpender Fat Caliper	\$115.00
Preston Anthropometric tape	16.00
Wall tape (can be improvised)	-
Seca Spring-Scale	65.00
Stoelting hand dynamometer	140.00
Modified Wells and Dillon Sit and Reach Flexibility Board	50.00

Ergometer steps	50.00
Propper Stethoscope	25.00
Propper sphygmomanometer	75.00
Cassette Tape Recorder or record player	50.00
Canadian Home Fitness Test Record	-
Room thermometer	-
Aerobic calculator (available free of charge)	-

The Protocol Manual, Norms and Results Booklets for the Standardized Test of Fitness are available to fitness or health professionals by writing to: Fitness and Amateur Sport Branch, 365 Laurier Avenue West, Journal Building, 11th Floor, Ottawa K1A 0X6.

